APPENDIX A - REFERENCE HERBICIDE LABELS

APPENDIX A.1 - REFERENCE HERBICIDE LABELS – 2,4-D

SPECIMEN LABEL

Agri Star®
By Albaugh Inc.

2,4-D AMINE 4

Herbicide

For selective control of many broadcast weeds in certain crops, including, cereal grains (wheat, barley, millet, oats and rye), corn (field corn, popcorn and sweet corn), fallow land and crop stubble, rice, sorghum (grain and forage sorghum), soybeans (pre-plant burndown application only); forests; rangeland and established grass pastures, including Conservation Reserve Program (CRP) acres; non-cropland; grasses grown for seed or sod, ornamental turf; and aquatic areas.

ACTIVE INGREDIENT:	
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid*	46.8%
OTHER INGREDIENTS	53.2%
TOTAL	100.0%

*Equivalent to 38.9% of 2,4-dichlorophenoxyacetic acid or 3.8 lb./gal. Isomer specific by AOAC Method.

EPA Reg. No. 42750-19 EPA Est. No. 42750-MO-001

KEEP OUT OF REACH OF CHILDREN

DANGER – PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

See inside booklet for additional PRECAUTIONARY STATEMENTS.

Manufactured by:

ALBAUGH, INC.

1525 NE 36th Street
Ankeny, Iowa 50021

FOR CHEMICAL SPILL, LEAK, FIRE, OR EXPOSURE, CALL CHEMTREC (800) 424-9300

AD070708

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are butyl rubber, natural rubber, neoprene or nitrile rubber. If you want more options, follow the instructions for Category *A* on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

1. Long-sleeved shirt and long pants.
2. Shoes and socks.
3. Chemical-resistant gloves (except for pilots).
4. Chemical-resistant apron when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
5. Wear protective eyewear (goggles or face shield).

See engineering controls for additional requirements.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

ENGINEERING CONTROLS STATEMENTS

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide may be toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate. Apply this product only as directed on label.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Open dumping is prohibited. Do not store this product near fertilizers, seeds, insecticides, or fungicides. Reclose all partially used containers by thoroughly tightening screw cap. Absorb any spill with a suitable clay absorbent and dispose of as indicated under "Pesticide Disposal."

Protect from freezing. If stored below freezing, the product must be warmed to at least 70°F and agitated before using. This does not affect the efficiency of the product.

For safety and prevention of unauthorized use, all pesticides should be stored in locked facilities. To prevent accidental misuse, different pesticides should be stored in separate areas with enough distance between to provide clear identification.

Opened, partially used pesticides should be stored in original labeled containers when possible. When transfer to another container is necessary because of leakage or damage, carefully mark and identify contents of the new container.

(continued)

STORAGE AND DISPOSAL *(cont.)*

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL

Non-refillable containers (1, 2.5, 30 & 55 gallon): Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

(non-refillable <5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

(non-refillable >5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use for disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable container (250 gallon & bulk): Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product through any type of irrigation system.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over short-sleeved shirt and short pants,
- Chemical-resistant gloves made of any waterproof material
- Chemical-resistant footwear plus socks
- Protective eyewear, and
- Chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: When this product is applied to rangeland and established pastures not harvested for hay or seed; non-cropland areas, ornamental turf not grown for sod or seed, and when applied by tree injection method only in forest sites, do not allow people (other than applicator) or pets on treatment area during application.

Do not enter or allow people (or pets) to enter treated area until sprays has dried.

GENERAL INFORMATION

Performance of this product may be affected by local conditions, crop varieties, and application method. User should consult local Extension Service, Agricultural Experiment or University Weed Specialists, and state regulatory agencies for recommendations in his area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. The lower recommended rates will be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states where control is difficult, the higher recommended rates should be used.

When product is used for weed control in crops, the growth stage of the crop must be considered.

Some plants and weeds, especially woody varieties, are difficult to control and may require repeat applications if permitted by this label.

Application rates should be 1 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of 2,4-D recommended per acre. For crop uses, do not mix with oil, surfactants, or other adjuvants unless specifically recommended. To do so may reduce herbicide's selectivity and could result in crop damage.

Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. This product contains dimethylamine salt of 2,4-D, one of the least volatile forms of 2,4-D.

Product should not be allowed to come into contact with desirable, susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes, and other vegetables. Product should not be used in greenhouses. Excessive amounts of this product in the soil may temporarily inhibit seed germination and all plant growth.

Users should note that herbicide treatment of public water requires a permit from appropriate state agencies in most states. Your State Conservation Department or Game and Fish Commission will aid you in securing a permit in your state.

Spray equipment used to apply 2,4-D should not be used for any other purpose until thoroughly cleaned by a suitable chemical cleaner.

Spray Preparation: Add the recommended amount of product to approximately 1/2 the volume of water to be used for spraying. Agitate well, then add the remainder of the water. Continue agitation during application until spray tank is empty.

Use in Liquid Nitrogen Fertilizer: Product may be combined with liquid nitrogen fertilizer suitable for foliar application on corn, grass, pastures, or small grains in one operation. Use product according to directions on this label for those crops. Use liquid nitrogen fertilizer at rates recommended by supplier or Extension Service Specialist. Mix the product and fertilizer according to the following instructions:

Fill the spray tank approximately 1/2 full with the liquid nitrogen fertilizer. In a separate clean container, mix the amount of product to be used with an equal amount of water. Add the product mixture to the spray tank while agitating. Add the remainder of the fertilizer while continuing to agitate. Apply immediately, maintaining agitation during application until tank is empty. DO NOT APPLY DURING COLD (NEAR FREEZING) WEATHER. Spray mixture must be used immediately and may not be stored.

Note: Pre-mixing the product with an equal amount of water is important.

Spot Treatments

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1,000 sq. ft. as indicated below.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of 2,4-D AMINE 4. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on the application rate for an area of 1,000 sq. ft. Mix the amount of 2,4-D AMINE 4 (fl. oz. or ml) corresponding to the desired broadcast rate in 1 to 3 gallons of spray. To calculate the amount of 2,4-D AMINE 4 required for larger areas, multiply the table value (fl. oz. or ml) by the thousands of sq. ft. to be treated. An area of 1,000 sq. ft. is approximately 10.5 x 10.5 yards (strides) in size.

Rate Conversion Table for Spot Treatment:

Label Broadcast Rate (pt./acre)							
1/2	**2/3**	**3/4**	**1**	**2**	**3**	**4**	**8**
Equivalent Amount of 2,4-D AMINE 4 per 1,000 sq. ft.							
1/5 fl. oz.† (5.5 ml)	1/4 fl. oz. (7.3 ml)	1/3 fl. oz. (8.3 ml)	3/8 fl. oz. (11 ml)	3/4 fl. oz. (22 ml)	1 fl. oz. (33 ml)	1-1/2 fl. oz. (44 ml)	3 fl. oz. (88 ml)

†Conversion factors: 1 pt = 16 fl. oz.; 1 fl. oz. = 29.6 (30) ml

Band Application: 2,4-D AMINE 4 may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated area.

$$\frac{\text{Band width (in inches)}}{\text{Row width (in inches)}} \times \text{Broadcast rate per acre} = \text{Band rate per treated acre}$$

$$\frac{\text{Band width (in inches)}}{\text{Row width (in inches)}} \times \text{Broadcast volume per acre} = \text{Band volume per treated acre}$$

SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial equipment and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

For aerial equipment, the boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made in a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

For ground boom application, do not apply with a nozzle height greater than 4 feet above the crop canopy.

WEEDS CONTROLLED

ANNUAL OR BIENNIAL WEEDS

beggarticks[1]
bittercress, smallflowered[2]
bitterweed
broomweed, common[1]
burdock, common
buttercup, smallflowered[1][2]
carpetweed
cinquefoil, common[2]
cinquefoil, rough[2]
cocklebur, common
coffeeweed
copperleaf, Virginia[2]
croton, Texas
croton, woolly
fixweed
galinsoga
geranium, Carolina[2]
hemp, wild
horseweed (marestail)[2]
jewelweed
jimsonweed
knotweed[1]
kochia
lambsquarter, common
lettuce, prickly[1][2]
lettuce, wild
lupines
mallow, little[1]
mallow, Venice[1]
marshelder
morningglory, annual
morningglory, ivy
morningglory, woolly
mousetail[2]
mustards (except blue mustard)
parsnip, wild
pennycress (fanweed)
pepperweeds *(Lepidium spp.)*[1][2]
pigweeds *(Amaranthus spp.)*[1]
poorjoe
primrose, common
purslane, common[2]
pusley, Florida
radish, wild
ragweed, common
ragweed, giant
rape, wild
rocket, yellow
salsify, common[1]
salsify, western[1]
shepherdspurse
sicklepod
smartweed (annual species)[1][2]
sneezeweed, bitter
sowthistle, annual
sowthistle, spiny
spanishneedles
sunflower
sweetclover
tansymustard
thistle, bull
thistle, musk[1]
thistle, Russian (tumbleweed)[1]
velvetleaf
vetches

PERENNIAL WEEDS

Alfalfa[1][2]
artichoke, Jerusalem[1]
aster, many-flower[1]
Austrian fieldcress[1]
bindweed (hedge, field and European)[1][2]
blue lettuce
blueweed, Texas
broomweed
bullnettle[1][2]
carrot, wild[1]
catnip
chicory
clover, red[1][2]
coffeeweed
cress, hoary[1]
dandelion
docks[1]
dogbanes[1]
eveningprimrose, cutleaf[2]
garlic, wild
goldenrod
hawkweed, orange[1]
healall
ironweed, western[2]
ivy, ground[1]
nettles (including stinging)[1]
onion, wild[1]
pennywort
plantains
ragwort, tansy[1]
sowthistle, perennial
thistle, Canada[1][2]
vervains[1]
wormwood

[1] Difficult-to-Control Weeds: These weeds are only partially controlled and may require repeat applications and/or use of the higher recommended rate of this product even under ideal conditions of application.
[2] This product may not be used to control this weed species in the state of California.

CROPS

CEREAL GRAINS (Wheat, Barley, Millet, Oats, Rye) (Not Underseeded with Legumes)

CROP/ APPLICATION TIMING	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Wheat, Barley, Millet, Rye Annual and biennial broadleaf weeds Perennial broadleaf weeds	 1/2 to 2† 1 to 2†	Apply after crop is fully tilled, but before boot stage of growth (usually 4 to 8 inches tall) but not forming joints in the stem. Do not apply before tillering or from early boot through the milk stage of growth.
Oats (Spring Seeded) (Fall Seeded Southern)	 1/2 3/4 to 1-1/2†	Apply after crop is fully tillered, but before boot stage or growth (usually 4 to 8 inches tall) and weeds are small. Do not apply before tillering or from early boot through the milk stage of growth. Do not apply during or immediately following cold weather.
Preharvest application (all cereals)	1	Apply using air or ground equipment to control weeds that could interfere with harvest, or to suppress perennial weeds. Apply when grain is in dough stage. Do not apply from early boot through the milk stage of growth.

†Use the lower rate in the rate range if small annual or biennial weeds are the major problem. Use the higher rate if perennial weeds or annual or biennial weeds are present which are considered to be hard-to-kill as determined by local experience. Higher rates increase the risk of crop injury and should be used only where weed control justifies such risk. Do not apply 2,4-D AMINE 4 at the crop seedling stage of growth. Consult state agricultural experiment station or extension service weed specialists for recommendations or suggestions to fit local conditions.

CEREAL GRAIN RESTRICTIONS:

- **Postemergence:**
- Make no more than one application per crop cycle.
- Do not apply more than 2 pints per acre per application.
- **Preharvest:**
- Make no more than one application per crop cycle.
- Do not apply more than 1 pint per acre per application.
- Pre-Harvest Interval is 14 days.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.75 pounds of a.e. per acre per year.

CORN (Field Corn, Popcorn and Sweet Corn)

General use precautions: Corn hybrids vary in tolerance to 2,4-D. Apply this product only to varieties known to be 2,4-D tolerant. Consult your seed company representative or local Agricultural Experiment Station or Extension Service Weed Specialist for information on 2,4-D tolerance of corn varieties. Application of this product may cause temporary stem brittleness in corn. To avoid stem breakage, delay cultivation for 8 to 10 days following application.

APPLICATION TIMING/ STAGE OF GROWTH	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Preplant (Burndown) Preemergence (Field corn, popcorn, and sweet corn)	 1 to 2	**General:** For best results, growth conditions should be favorable for active weed growth. Use high rate in rate range for less susceptible weeds, cover crops such as alfalfa, weeds in advanced stages of development, or under less favorable growth conditions. **Preplant:** Apply 7 to 14 days before planting corn to control emerged broadleaf weed seedling or existing cover crops. **Preemergence:** Apply any time after planting, but before corn emerges to control broadleaf weed seedlings or existing cover crops. Do not use on light sandy soils.

(continued)

CORN (Field Corn, Popcorn and Sweet Corn) *(cont.)*

APPLICATION TIMING/ STAGE OF GROWTH	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Postemergence (Field corn, popcorn, and sweet corn) Annual broadleaf weeds Crop up to 8 inches tall Crop 8 inches tall to tasseling (directed spray only) Perennial broadleaf weeds	 1/2 to 1 1 1	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). If corn is more than 8 inches tall, use drop nozzles to keep spray off foliage. Treat perennial weeds when they are in bud to bloom stage. Do not tank mix with atrazine, oil or other adjuvants. Do not apply from tasseling to hard dough stage. **Note:** Corn treated with 2,4-D may become temporarily brittle. Wind or cultivation may cause stem breakage during the period of time that corn is brittle. **Sweet Corn:** To minimize potential for crop injury, use only lowest rate in rate range.
Preharvest (Field corn and popcorn only)	up to 3	Apply after corn is in hard dough (or denting) stage. Do not apply preharvest to sweet corn.

CORN RESTRICTIONS:
- **Preplant or Pre-emergence:**
- Make no more than one application per crop cycle.
- Do not apply more than 2 pints per acre per application.
- **Postemergence:**
- Make no more than one application per crop cycle.
- Do not apply more than 1 pint per acre per application.
- Minimum spray interval between applications for sweet corn is 21 days.
- **Preharvest (Field and Pop only):**
- Make no more than one application per crop cycle.
- Do not apply more than 3 pints per acre per application.
- Do not use treated crop as fodder for 7 days following application.
- Corn (Field and Pop) Pre-Harvest Interval is 7 days.
- Corn (Sweet) Pre-Harvest Interval is 45 days.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 3.0 pounds of a.e. per acre per year for Field and Pop Corn.
Do not exceed a combined total of 1.5 pounds of a.e. per acre for Sweet Corn.

RICE (Not for Use in California)

General Precautions: Rice varieties vary in tolerance to 2,4-D, or may be susceptible to injury under certain conditions or stages of growth. Consult your seed company representative or local Agricultural Experiment Station or Extension Service Weed Specialist for information on 2,4-D tolerance of rice varieties, including optimum rates and timing.

APPLICATION TIMING	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Preplant	1/2 to 2	Apply 2 to 4 weeds before planting rice to control emerged broadleaf weeds. Do not use in California.
Postemergence	1 to 2†	Apply when rice is in late tillering stage and at the time of first joint development (first to second green ring). Do not apply after panicle initiation, after rice internodes exceed one-half inch, at early seedling, early panicle or boot and heading stages.

†Application rates of 2 pt./acre may be applied to handle difficult weed control problems. However, do not use the 2 pt./acre rate unless possible crop injury is acceptable.

RICE RESTRICTIONS:
- **Preplant:**
- Make no more than one application per crop cycle.
- Do not apply more than 2 pints per acre per application.
- **Postemergence:**
- Make no more than one application per crop cycle.
- Do not apply more than 3 pints per acre per application.
- Pre-Harvest Interval is 60 days.

2,4-D AMINE 4 contains 0.7 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.5 pounds of a.e. per crop cycle.

SORGHUM
(Grain Sorghum [Milo] and Forage Sorghum)

General Use Precautions: Temporary crop injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply 2,4-D AMINE 4 under these conditions, use no more than 2/3 pint per acre. Sorghum hybrids vary in 2,4-D tolerance. Apply only to varieties known to be tolerant to 2,4-D. Consult your seed company representative or local agricultural experiment station or Extension Service Weed Specialist for information on 2,4-D tolerance of sorghum varieties.

APPLICATION TIMING/ STAGE OF GROWTH	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Postemergence†		Apply when sorghum is 6 to 15 inches tall. If sorghum is more than 8 inches tall (top of canopy), use drop nozzles to keep spray off foliage. Do not use with oil or other adjuvants. Do not treat during boot, flowering or dough stage.
Crop 6-8 inches tall	1/2 to 1-1/2	
Crop 8-15 inches tall (directed spray only)	3/4 to 1-1/2	

SORGHUM RESTRICTIONS:
- Do not apply more than 1-1/2 pint per acre per application.
- Do not make more than 1 post-emergence application per year.
- Pre-Harvest Interval is 30 days.
- Do not permit meat or diary animals to consume treated crop as fodder or forage for 30 days following application.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D ester, do not exceed a combined total of 1.0 pound of a.e. per acre per year.

SOYBEANS
For Use in Crop Residue Management Systems (Pre-plant Burndown Application Only)

Important Notice: Unacceptable injury to soybeans planted in treated fields may occur. Whether or not soybean injury occurs and the extent of such injury will depend on weather (temperatures and rainfall) from herbicide application until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present at the time of application. Injury is more likely to occur under cool rainy conditions and where there is less weed vegetation and crop residue present.

APPLICATION TIMING	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Preplant (Burndown)	3/4 to 1	Apply not less than 15 days before planting soybeans, when weeds are small and actively growing. See "Use Precautions and Restrictions" below.
	1 to 2	Apply not less than 30 days before planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present. See "Use Precautions and Restrictions" below.
Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may be added to spray mixtures to increase the herbicidal effectiveness on certain weeds. Read and follow all directions and precautions on this label and on the label of each product added to the spray mixture.		

Precautions:
- Do not apply prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.
- Do not mow or cultivate weeds prior to treating with this product as poor control may result.

SOYBEAN (PREPLANT) RESTRICTIONS
- **Pre-plant (2 application option):**
- Do not apply more than 1 pint per acre per preplant application.
- Do not apply within 15 days of planting soybeans.
- **Pre-plant (single application option):**
- Do not apply more than 2 pints per acre.
- Do not apply within 30 days of planting soybeans.
- Do not feed treated hay, forage, or fodder or graze treated soybeans to livestock.
- Do not feed or graze treated cover crops to livestock.
- Do not replant fields treated with this product in the same growing season with crops other than those labeled for 2,4-D preplant use.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.0 pound of a.e. per acre per crop cycle.

SUGARCANE

APPLICATION TIMING/ STAGE OF GROWTH	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Preemergence	3	**Preemergence:** Apply before cane emerges.
Postemergence	3 to 4	**Postemergence:** Apply after cane emergence through layby. Use higher rate for perennial weeds and difficult-to-control weeds.

SUGARCANE RESTRICTIONS:
- **Pre-emergent Application:**
- Do not make more than one pre-emergence application per crop cycle.
- Do not apply more than 4 pints per acre per application.
- **Postemergent Application:**
- Do not make more than one post-emergence application per crop cycle.
- Do not apply more than 4 pints per acre per application.
- Do not harvest cane prior to crop maturity.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per crop cycle.

FALLOWLAND AND CROP STUBBLE

Fallowland is idle land, postharvest to crops or between crops.

TYPE OF WEEDS	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Annual broadleaf weeds	1 to 2	Use a lower rate in the rate range when weeds are small (2 to 3 inches tall) and actively growing. Use a higher rate in the rate range when weeds are larger and under less favorable growth conditions.
Biennial broadleaf weeds	2 to 4	Apply when musk thistles or other biennial species are in the seedling to rosette stage and before development of flower stalks. The lower rate can be used in the spring during the rosette stage. Use the highest rate in the fall or after flower stalks have developed.
Perennial broadleaf weeds	2 to 4	Apply when perennial weeds are in bud to early bloom stage or while in good vegetative growth.
Wild garlic and onion in crop stubble	4	Apply to new regrowth of wild garlic or onion that occurs in the fall after harvest of other crops.

Precaution:
For best weed control results, do not cultivate for at least 2 weeks after application or until top growth is dead.

FALLOWLAND RESTRICTIONS:
- Preharvest Interval: Do not cut forage or hay within 7 days of application.
- Make no more than two applications per year.
- Do not apply more than 4 pints per acre per application.
- Minimum spray interval between applications is 30 days
- Plant only labeled crops within 29 days following application.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

GRASSES GROWN FOR SEED OR SOD FARMS

Agricultural Use Requirements: When used in grass grown for seed or sod farms, follow PPE and reentry instructions in the "Agricultural Use Requirement" section of this label.

TREATMENT SITE (APPLICATION TIMING)	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Grasses Grown for Seed (Postemergence Use) Seedling grass (five-leaf stage or later) Well-established grasses	 3/4 to 1 1 to 4	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 2/3 pt./acre. Cool season grasses are tolerant of higher rates. Do not apply to grass in the early boot through milk stage if seed production is desired. When grass is well established, higher rates of up to 2-2/3 pints/acre may be applied for control of hard-to-kill annual or perennial weeds. Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod farms for 1 to 2 days before or after application. Delay irrigation until the day following application.
Sod Farms (Postemergence)	 1/2 to 4	

Precautions:

- Do not use on creeping grasses such as bentgrass except as a spot treatment.
- Do not use on injury-sensitive southern grasses such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous ground covers. Legumes may be damaged or killed.
- Reseeding: Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- Use sufficient spray solution for thorough and uniform coverage, and no less than 2 gallons per acre.

GRASSES GROWN FOR SEED OR SOD FARM RESTRICTIONS:

- Do not apply more than 4 pints product (2.0 lbs. a.e.) per acre per application.
- Do not make more than 2 applications per year (excluding spot treatments).
- Minimum spray interval between broadcast applications is 21 days.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year excluding spot treatments.

ORNAMENTAL TURF (Excluding Grasses Grown For Seed or Sod Farms)

(Includes lawns, golf courses, cemeteries and parks, airfields, roadsides, and vacant lots)

Intended for use by applicators who are authorized/licensed by the state for this type of application.

When this product is applied to ornamental turn areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

TREATMENT SITE (APPLICATION TIMING)	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Ornamental Turf (Postemergence) Seedling grass (five-leaf stage or later) Well-established grasses Biennial and perennial broadleaf weeds	 3/4 to 1 2 to 3 3	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 2/3 pt./acre. Cool season grasses are tolerant of higher rates.

Precautions:

- Do not use on creeping grasses such as bentgrass except as a spot treatment.
- Do not use on injury-sensitive southern grasses such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous ground covers. Legumes may be damaged or killed.
- Reseeding: Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.

ORNAMENTAL TURFGRASS RESTRICTIONS:

- Do not apply more than 3 pints per acre per application.
- Do not make more than 2 applications per year (excluding spot treatments).
- Minimum spray interval between broadcast applications is 30 days.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 3.0 pounds of a.e. per acre per year excluding spot treatments.

RANGELAND, ESTABLISHED GRASS PASTURES

(Including Perennial Grasslands Not In Agricultural Production Such As Conservation Reserve Program Acres)

TARGET WEEDS OR WOODY PLANTS	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Annual broadleaf weeds Biennial and perennial broadleaf weeds	2 2 to 4	For best results, apply when weeds are small and growing actively before the bud stage. Apply when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks appear. Refer to the "Weeds Controlled" section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher recommended rates, even under ideal conditions of application.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	**Note:** To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application".
Tree Injection Application		See instructions for tree injection application in "Forestry Uses" section.
Wild garlic and wild onion	4	Make three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.
Broadleaf weed control in newly sprigged coastal bermudagrass	2 to 4	Applications may be made either preemergence or postemergence. Follow "Specific Use Directions" for annual, biennial and perennial broadleaf weed control, above.
Sand shinnery oak Sand sagebrush	2	Sand shinnery oak: Apply by aircraft between May 15 and June 15. Sand sagebrush: Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre. Retreatment may be needed.

(continued)

RANGELAND, ESTABLISHED GRASS PASTURES *(cont.)*

(Including Perennial Grasslands Not In Agricultural Production Such As Conservation Reserve Program Acres)

TARGET WEEDS OR WOODY PLANTS	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Big sagebrush Rabbitbrush	6	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use water or 1:4 oil-water emulsion as carrier and a spray volume of 5 to 10 gallons per acre. Retreatment may be needed.
Chamise, manzanita, buckbrush, coastal sage, coyotebrush, and chaparral species	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use water or 1:4 oil-water emulsion as carrier and a spray volume of 5 to 10 gallons per acre. Retreatment may be needed.
Southern wild rose Broadcast application Spot Treatment	 up to 4 8 pts./100 gal. of spray	**Broadcast:** Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment. **Spot Treatment:** Apply when foliage is well developed. Thorough coverage is required. Use 8 pints of 2,4-D AMINE 4 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required. Do not exceed 2 2/3 pt per acre per applications.
CRP Acres	For program lands such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.	

Precautions:
- Do not use on bentgrass, alfalfa, clover, or other legumes.
- Do not use on newly seeded areas until grass is well established.
- Do not use from early boot to milk stage where grass seed production is desired.

RANGELAND & PASTURE RESTRICTIONS:
- **Postemergence:**
  - For susceptible annual and biennial broadleaf weeds: Use 1.0 lbs. a.e./acre per application.
  - For moderately susceptible biennial and perennial broadleaf weeds: Use 1.0 to 2.0 lbs. a.e./acre per application.
  - For difficult-to-control weeds and woody plants: Use 2.0 lbs. a.e./acre per application.
  - **Spot treatment:** Use 2.0 lbs. a.e./acre.
- **Livestock Feeding Restrictions:**
  - Do not graze dairy animals on treated areas within 7 days after application.
  - Do not graze meat animals on treated areas within 3 days before slaughter.
  - Do not cut treated grass for hay within 7 days after application.
  - For government program grasslands, follow program grazing restrictions if more restrictive than those given above.
  - For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.
- Do not apply more than 4 pints per acre per application.
- Do not make more than 2 applications per year.
- Minimum spray interval between applications is 30 days.
- If grass is to be cut for hay, Agricultural Use requirements for the Worker Protection Standard are applicable.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

NON-CROPLAND AREAS

Such as fencerows, hedgerows, roadsides, right-of-way, utility power lines, railroads, airports.

TREATMENT SITE/ APPLICATION METHOD	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Annual broadleaf weeds Biennial and perennial broadleaf weeds and susceptible woody plants	2 to 4 4 to 8	Apply when annual weeds are small and growing actively before the bud stage. Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult-to-control perennial broadleaf weeds and woody species, tank mix up to 8 pints of 2,4-D AMINE 4 plus 1 to 4 qts. of Triclopyr 3A herbicide per acre. Oil or wetting agent may be added to the spray, if needed for increased effectiveness. **For ground application:** (high volume) Apply a total spray volume of 100 to 400 gallons per acre; (low volume) apply a total spray volume of 10 to 100 gallons per acre. **For helicopter:** Apply a total spray volume of 5 to 30 gallons per acre.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	**Note:** To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application".
Tree Injection Application		See instructions for tree injection in "Forestry Uses" section.
Southern wild rose Broadcast application Spot Treatment	 up to 8 8 pts./100 gal. of spray	**Broadcast:** Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment. Apply when foliage is well developed. Thorough coverage is required. Use 8 pints of 2,4-D AMINE 4 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.

Precautions:
- Do not apply to newly seeded areas until grass is well established.
- Bentgrass, St. Augustine, clover, legumes and dichondra may be severely injured or killed by this treatment.
- Use 2 or more gallons of spray solution per acre.

NON-CROPLAND RESTRICTIONS:
- Do not harvest forage or hay from treated areas for 7 days after application.
- Postemergence (annual and perennial weeds):
  - Do not make more than 2 applications per year.
  - Do not apply more than 4 pints per acre per application.
  - Minimum spray interval between applications is 30 days.
- **Postemergence (woody plants):**
  - Do not make more than 1 application per year.
  - Do not apply more than 8 pints per acre per application.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

2,4-D AMINE 4 contains 0.5 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

FORESTRY USES

Forest site preparation, forest roadsides, brush control, established conifer release (including Christmas trees and reforestation areas)

TREATMENT SITE METHOD OF APPLICATION	2,4-D AMINE 4	SPECIFIC USE DIRECTIONS
Annual Weeds Biennial and perennial broadleaf weeds and susceptible woody plants	2 to 4 pts./acre 4 to 8 pts./acre	Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult-to-control perennial broadleaf weeds and woody species, use up to 8 pts. of 2,4-D AMINE 4 and 1 to 4 qts. of Triclopyr 3A herbicide per acre. For conifer release, make application in early spring before budbreak of conifers when weeds are small and actively growing.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	**Note:** To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the recommended broadcast rate and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application".
Conifer Release: Species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir	3 to 8 pts./acre	To control competing hardwood species such as alder, aspen, birch, hazel, and willow, apply from mild to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground or air equipment, using sufficient spray volume to ensure complete coverage. Because this treatment may cause occasional conifer injury, do not apply if such injury cannot be tolerated.
Directed Spray: Conifer plantations including pine	8 pts./100 gal.	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in oil, oil-water, or water carrier in a spray volume of 10 to 100 gallons per acre.
Basal Spray (May also be used in rangeland, pastures, and noncropland)	17 pts./100 gal.	Thoroughly wet the base and root collar of all stems until the spray begins to accumulate around the root collar at the ground line. Wetting stems with the mixture may also aid in control.
Surface of Cut Stumps (May also be used in rangeland, pastures, and noncropland)	–OR–	Apply as soon as possible after cutting trees. Thoroughly soak the entire stump with the 2,4-D mixture including cut surface, bark and exposed roots.
Frill and Girdle (May also be used in rangeland, pastures, and noncropland)	2.6 fl. oz./gal. of water	Cut frills (overlapping V-shaped notched cut downward through the bark in a continuous ring around the base of the tree) using and axe or other suitable tool. Saturate the freshly cut frills with the 2,4-D mixture.
Tree Injection Application (May also be used in rangeland, pastures, and noncropland)	(1 to 2 ml per injection site)	To control and prevent resprouting of unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 ml of undiluted 2,4-D AMINE 4 per inch of trunk diameter as measured at breast height (DBH), approximately 4-1/2 ft. above the ground. Injection sites, however, should be as close to the root collar as possible and the injection bit must penetrate the inner bark. Applications may be made throughout the year, but for best results apply between May 15 and October 15. Maples should not be treated during the spring sap flow. For hard-to-control species such as ash, maple, and dogwood use 2 ml of undiluted 2,4-D AMINE 4 per injection site or double the number of 1 ml injections. **Note:** No Worker Protection Standard workers entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.

Precautions:

- Do not allow sprays to contact conifer shoot growth (current year's new growth) or injury may occur.
- Do not apply to nursery seedbeds.
- For conifer release, do not use on plantations where pine or larch are among the desired species.

FORESTRY RESTRICTIONS:

- Grazing and Haying Restrictions: If grazing or haying is anticipated, do not apply more than 4 pts./acre of 2,4-D AMINE 4 per application. Do not harvest forage or hay from treated areas for 7 days after application.
- Do not make more than one broadcast application per year.
- For broadcast applications, do not apply more than 8 pts./acre of 2,4-D AMINE 4 per 12-month period.
- Basal spray, Cut Surface – Stumps, and Frill:
    - Limit of one basal spray or cut surface application per year.
    - Maximum of 8.0 lbs. a.e. per 100 gallons of spray solution.
- Injection:
    - Limit to one injection application per year.
    - Maximum of 2.0 ml of 4.0 lbs. a.e. formulation per injection site.

AQUATIC WEED CONTROL

Use in Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams that are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority

Notice to Applicators: Before application, coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for such use.

EMERGENT AND FLOATING AQUATIC WEEDS

Including Water Hyacinth *(Eichornia crassipe)*

Application Rate: 4 to 8 pts./acre

Specific Use Directions:

Application Timing:

Spray weed mass only. Apply when water hyacinth plants are actively growing. Repeat application as necessary to kill regrowth and plants missed in previous operation. Use 8 pt/acre rate when plants are mature or when weed mass is dense.

Surface Application:

Use power operated sprayers with boom or spray gun mounted on boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gallons of spray mixture per acre. Special precautions such as use of low pressure, large nozzles and spray thickening agents should be taken to avoid spray drift to susceptible crops. Follow label directions for use of any drift control agent.

Aerial Application:

Use drift control spray equipment or thickening agent mixed in the spray mixture. Apply 8 pts. of 2,4-D AMINE 4 per acre using standard boom systems using a minimum spray volume of 5 gallons per acre. For Microfoil® drift control spray systems, apply 2,4-D AMINE 4 in a total spray volume of 12 to 15 gallons per acre.

FLOATING AND EMERGENT WEEDS USE RESTRICTIONS:

- Maximum of 8 pints (4.0 lbs. a.e.)/surface acre per application.
- Limited to 2 applications per season.
- Minimum of 21 days between applications.
- Spot treatments are permitted.
- Apply to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving.
- Coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for aquatic applications.

Water Use

1. Water for irrigation or sprays:
   - A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf, or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites anytime after the 2,4-D aquatic application.
   - B. Due to potential phytotoxicity considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses: and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
     - i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or,
     - ii. A waiting period of 7 days from the time of application has elapsed, or,
     - iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.
2. Drinking water (potable water):
   - A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
   - B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is greater than or equal to 600 ft.
   - C. If no setback distance of greater than or equal to 600 ft. is used for application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for public water supply or to individual private water uses. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water.

The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample col-

lected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date:_____Time:_____

D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
   i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or,
   ii. A waiting period of at least 7 days from the time of application has elapsed, or,
   iii. An approved assay indicated that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515,555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24. or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.

E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.

F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

SUBMERGED AQUATIC WEEDS: Including Eurasian Water Milfoil *(Myriophyllum spicatum)*

TREATMENT SITE	SPECIFIC USE DIRECTIONS
Aquatic Weed Control in: Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams That are Quiescent or slow moving, Including Programs of The Tennessee Valley Authority	**Application Timing:** For best results, apply in spring or weed growth in areas heavily infested the previous year. A second application may be needed when weeds show signs of recovery, but no later than mid August in most area. **Subsurface Application:** Apply 2,4-D AMINE 4 undiluted directly to water through a boat-mounted distribution system. Shoreline areas should be treated by subsurface injection application by boat to avoid aerial drift. **Surface Application:** Use power operated boat mounted boom sprayer. If rate is less than 5 gallons per acre, dilute to a minimum spray volume of 5 gallons per surface area. **Aerial Application:** Use drift control spray equipment or thickening agents mixed with sprays to reduce drift. Apply through standard boom systems in a minimum spray volume of 5 gallons per surface acre. For Microfoil® drift control spray systems, apply 2,4-D AMINE 4 in a total spray volume of 12 to 15 gallons per acre. Apply to attain a concentration of 2 to 4 ppm (see table below.)

Dissolved Oxygen Rations: Fish require oxygen dissolved in water for life processes and a favorable water-oxygen ration must be maintained. Decaying weeds use up dissolved oxygen in water. Fish kill resulting from decaying plant material can be prevented by:

1. Treating the entire area when the weed mass is sparse and the rate of decomposition will not be sufficient to disturb the water-oxygen ratio: or
2. If application is delayed until there is a dense weed mass, treat no more than one-half of a lake or pond at one time. For large bodies of weed-infested water, apply product in lanes, leaving buffers strips at least 100 feet wide which can be treated in 4 to 5 weeks or when vegetation in treated lanes has decomposed. During the growing season, decomposition of treated strips will usually occur in 2 to 3 weeks.

SUBMERSED AQUATIC WEEDS USE RESTRICTIONS:

- Do not treat areas that are not infested with aquatic weeds.
- Do not exceed 10.8 lbs. of acid equivalent per acre foot of treated water.
- Do not apply within 1500 ft. of an active potable or irrigation water intake.
- Wind speed: Do not apply when wind speed is at or above 10 mph when making ground or surface applications. Do not aerially apply when wind speed is greater than 5 mph. Wind speed restrictions do not apply for subsurface applications used in submerged aquatic weed control programs.
- Irrigation: Unless an approved assay indicated that the 2,4-D concentration is 100 ppb (0.1 ppm) acid or less, do not use water from treated areas for;
  1. irrigation other than non-crop areas or those crops or plants labeled for direct application of 2,4-D; or
  2. mixing sprays for agricultural or ornamental plants.
- Potable Water: Unless an approved assay indicated that the 2,4-D concentration is 70 ppb (0.07 ppm) acid or less, do not use water from treated areas for potable water (drinking water).
- Other Uses of Treated Water: Except as stated above, there are no restrictions on use of water from treated areas for fishing, watering of livestock, or other domestic purposes.
- Minimum of 21 days between applications.
- Apply only to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving.
- Coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for aquatic applications.

Submersed Weeds

- Maximum of 22.7 pints (10.8 lbs a.e.)/per acre-foot per application.
- Limited to 2 applications per season.
- Apply to aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving.
- Do not apply within 21 days of previous application.
- When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream fro the application.
- Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

Table 1. Amount of 2,4-D to Apply for a Target Subsurface Concentration

Surface Area	Average Depth	For typical conditions – 2 ppm 2,4-D a.e./acre-foot	For difficult conditions* – 4 ppm 2,4-D a.e./acre-foot
1 acre	1 ft.	5.4 lbs. (11.3 pints product)	10.8 lbs. (22.7 pints product)
	2 ft.	10.8 lbs. (22.7 pints product)	21.6 lbs. (45.4 pints product)
	3 ft.	16.2 lbs. (34.1 pints product)	32.4 lbs. (68.2 pints product)
	4 ft.	21.6 lbs. (45.4 pints product)	43.2 lbs. (90.0 pints product)
	5 ft.	27.0 lbs. (56.8 pints product)	54.0 lbs. (113.6 pints product)
*Examples include spot treatment of pioneer colonies of Eurasian Water Milfoil and certain difficult-to-control aquatic species.			

Water Use:

1. Water for irrigation or sprays:
   A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf, or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.
   B. Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable:
   If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, noncrop areas or other plants not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
      i. A setback distance described in the Drinking Water Setback Table was used for the application, or,
      ii. A waiting period of 21 days from the time of application has elapsed, or,
      iii. An approved assay indicated that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. See Table 3 for the waiting period after application but before taking the initial sampling at water intake.
2. Drinking water (potable water):
   A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits.

      The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
   B. For submersed weed applications, the drinking water setback distances from functioning potable water intakes are provided in Table 2. Drinking Water Setback Distance (below).
   C. If not setback distance from the Drinking Water Setback Table (Table 2) is to be used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting should include the day and time of application. Posting may be removed if analysis of a sample collected at the intake no sooner than stated in Table 3 (below) shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.

Text of notification: Wait 21 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested no sooner than (insert days from Table 3) and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date:_____Time:_____

D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
   i. A setback distance described in the Drinking Water Setback Distance Table was used for the application, or,
   ii. A waiting period of at least 21 days from the time of application has elapsed, or,
   iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than stated in Table 3. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515,555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.

E. **Note:** Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.

F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

Table 2. Drinking Water Setback Distance for Submersed Weed Application

Application Rate and Minimum Setback Distance (feet) From Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
600	1200	1800	2400
*ppm acid equivalent target water concentration			

Table 3. Sampling for Drinking Water Analysis After 2,4-D Application for Submersed Weed Applications

Minimum Days After Application Before Initial Water Sampling at the Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
5	10	10	14
*ppm acid equivalent target water concentration			

BANKS OF IRRIGATION CANALS AND DITCHES

TARGET PLANTS	2,4-D AMINE 4 (pt./acre)	SPECIFIC USE DIRECTIONS
Annual Weeds	2 to 4	Apply using low pressure spray (10 to 40 psi) in a spray volume of 20 to 100 gallons per acre using power operated spray equipment. Apply when wind speed is low, 5 mph or less. Apply working upstream to avoid accidental concentration of spray into water. Cross-stream spraying to opposite banks is not permitted and avoid boom spraying over water surface. When spraying shoreline weeds, allow no more than 2 foot overspray onto water surface with an average of less than 1 foot of overspray to prevent significant water contamination. Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flowering stalks appear. For hard-to-control weeds, a repeat application after 30 days at the same rate may be needed. For woody species and patches of perennial weeds, mix 2/3 gallon (5-1/3 pts.) of 2,4-D AMINE 4 per 64 to 150 gallons of total spray. Wet foliage by apply about 3 to 4 gallons of spray per 1,000 sq. ft. (10.5 x 10.5 steps).
Biennial and perennial broadleaf weeds and susceptible wood plants	4	

DITCHBANK APPLICATION RESTRICTIONS:

- Postemergence:
  - Limited to 2 applications per season.
  - Maximum of 4 pts./acre per application.
  - Minimum of 30 days between applications.
- Spot treatment permitted.

(continued)

- Do not apply more than 8 pts./acre per year.
- Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.). Repeat 3 times and use the average to calculate CFS.

  Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

- For ditchbank weeds:
  - Do not allow boom spray to be directed onto water surfaces.
  - Do not spray across stream to opposite bank.
- For shoreline weeds:
  - Allow no more than 2 foot overspray onto water.

CONDITIONS OF SALE AND WARRANTY

The DIRECTIONS FOR USE of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of ALBAUGH, INC., its Supplemental Distributors, or the Seller. All such risks shall be assumed by the Buyer.

ALBAUGH, INC., its Supplemental Distributors and the Seller warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NEITHER ALBAUGH, INC. NOR ITS SUPPLEMENTAL DISTRIBUTOR MAKE ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS.**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND THE EXCLUSIVE LIABILITY OF ALBAUGH, INC., ITS SUPPLEMENTAL DISTRIBUTORS AND THE SELLER FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. When Buyer suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), Buyer must promptly notify Seller in writing of any claims to be eligible to receive either remedy stated above. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL ALBAUGH, INC., ITS SUPPLEMENTAL DISTRIBUTORS, OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** ALBAUGH, INC., its Supplemental Distributors, and the Seller offer this product, and the Buyer accepts it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of ALBAUGH, INC. No employee or agent of ALBAUGH, INC., its Supplemental Distributor, or the Seller is authorized to vary or exceed the terms of this Warranty in any other manner.

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AgriSOLUTIONS™

2,4-D Amine 4

ACTIVE INGREDIENT:

Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid* 47.3%

OTHER INGREDIENTS : 52.7%

TOTAL 100.0%

* Isomer specific by AOAC Method No. 6.275 (13th Edition) 1980

* 2,4-Dichlorophenoxyacetic acid equivalent 39.3%. Contains 3.8 lbs. of 2,4-Dichlorophenoxyacetic acid per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle
(If you do not understand the label, find some one to explain it to you in detail.)

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER

Corrosive. Causes irreversible eye damage. May be fatal if absorbed through skin. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist.

FIRST AID

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

IF IN EYES: Hold eyelids open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

- Have the product container or label with you when calling a poison control center or doctor or going for treatment.
- For additional information in case of emergency call toll free 1-877-424-7452.

For additional Precautionary Statements see inside booklet.

EPA Reg. No. 1381-103

EPA Est. No.

Distributed by

NET CONTENTS

Winfield Solutions, LLC

P.O. Box 64589, St. Paul MN 55164-0089

1/0331/0

Personal Protective Equipment:
Some of the materials that are chemical-resistant to this product are polyethylene or polyvinyl chloride. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
- Chemical-resistant footwear and socks.
- Protective eyewear.
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning or maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day's use, clothing or PPE must not be reused until it has been cleaned.

Engineering controls statement:
If this container contains 5 gallons or more in capacity, do not pour product from this container. A mechanical system (pump and probe or spigot) must be used in transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use closed systems, enclosed cabs, or aircraft, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS
This product may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted elsewhere on this label. Drift and runoff may be hazardous to aquatic invertebrates and non-target plants in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Most cases of groundwater contamination involving phenoxy herbicide such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing and transferring this pesticide will reduce the probability of spills. Placement of mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Use of this product in certain portions of California, Oregon and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to EPA Web Site: http://www.epa.gov/espp.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box apply only to those uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls over short sleeved shirt and short pants.
- Chemical-resistant gloves made of any waterproof material.
- Chemical-resistant footwear plus socks.
- Protective eyewear.
- Chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store pesticides in a secure warehouse or storage building, in original container only. Store at temperatures above 32°F. If allowed to freeze, rewarm to 40°F; remix thoroughly before using. This does not alter this product. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law and may contaminate groundwater. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Use label language appropriate for container size and type.

Nonrefillable containers. Do not reuse or refill this container. Clean container promptly after emptying.

Nonrefillable container equal to or less than 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities such as burning of plastic containers. If burned, stay out of smoke.

Nonrefillable container greater than 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities such as burning of plastic containers. If burned, stay out of smoke.

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities such as burning of plastic containers. If burned, stay out of smoke.

WEED LIST

2,4-D Amine 4 will control these plants and other 2,4-D susceptible species:

ANNUAL AND BIENNIAL WEEDS

Annual fanweeed (field pennycress), annual yellow sweet clover, * beggarticks, bull thistle, burdock, carpetweed, chickweed, cocklebur, coffeeweed, common mullein, common evening primrose, cornflower, croton, galinsoga, goatsbeard, hemp, henbit, jewelweed, jimsonweed * knotweed, * kochia, lambsquarters, mallow (Venice, dwarf, little), marshelder, morningglory (common, ivy, wooly) musk thistle, mustards (except blue), pennycress, pepperweed (field), ** pigweeds, poorjoe (wooly plantain), * prickly lettuce, puncturevine, purslane, ragweed (common, giant), rough fleabane, rush, Russian thistle, salsify, sheperdspurse, * stinkweed, smartweeds (annual), sowthistle (annual or spiny), sunflower, tansymustard, tumbleweed, * velvetleaf, vetches, water primrose, * wild carrot, wild lettuce, wild parsnips, wild radish, wild sweet potato.

PERENNIAL WEEDS

* Alfalfa, * bindweeds (hedge, field and European), blue lettuce, * broom snakeweed, buckhorn plantain, buttercup, * Canada thistle, catnip, chamise, chicory, climbing milkweed, common duckweed, curly indigo, dandelion, * docks, * dogbanes, * goldenrod, * ground ivy, * hawkweed (orange), * hoary cress, * Jerusalem artichoke, locoweed * many-flowered aster, milkvetch, * nettles, nutgrass, plantains, poison ivy, pokeweed, sheep sorrel, sicklepod, sneezeweed (bitter), sowthistle (perennial), * tansy ragwort, * vervains, * wild garlic, * wild onion, witchweed, wormwood, yellow rocket, yellow starthistle.

* BRUSH

Boxelder, buckbrush, coyotebrush, elderberry, manzanita, rabbitbrush, sagebrush (coastal, big, sand), sand shinnery oak, sumac, willow.

AQUATIC WEEDS

Alligatorweed, parrotfeather, water hyacinth, water lily, water primrose

* These species may require repeat treatments and/or the higher rate. ** Control of pigweeds in the Texas and Oklahoma High Plains may be difficult.

USE DIRECTIONS

Unless noted otherwise under individual **DIRECTIONS** section, for aerial application, apply the recommended amount in a minimum of 2 gallons of water per acre. For ground application, apply the recommended amount in a minimum of 3 gallons of water per acre. Use more water for both methods when adverse growing conditions are present.

Band Treatment: If only bands or rows are treated, leaving middles untreated, the dosage and spray volume per crop acre are reduced proportionately. For example, treating a 12-inch band where the row spacing is 36 inches would require 1/3 of the recommended broadcast rate per acre (12 inches divided by 36 inches = 1/3).

$$\frac{\textit{Band width in inches}}{\textit{Row width in inches}} \quad X \quad \textit{Broadcast volume per acre} \quad = \quad \textit{Band volume per acre}$$

DO NOT apply with high spray pressures, hollow cone or other nozzle types that produce small spray droplets which may drift. Avoid spray drift by making applications when conditions such as wind, air stability and temperature inversions are not a factor. The use of a suitable drift control agent at the proper rate will aid in the reduction of spray drift. Apply when weather is warm and plants are rapidly growing. Cold weather or dry conditions may cause poor results. **DO NOT** apply if rain is expected within 6 hours. Consult your local agronomist or Extension specialist for specific use and crop tolerance situations. Do not apply this product through any type of irrigation system.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, and relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for non-target species, non-target crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if:
a) conditions of temperature inversion exist, or
b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications:

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications. When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

Additional requirements for ground boom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

MIXING INSTRUCTIONS

WATER BASED SPRAY -- Fill the equipment half full of water, agitate while adding this product; then add the rest of the water.
NITROGEN FERTILIZER: Weed and feed applications for corn, small grains, grasses grown for seed or grass pastures according to label use rates. - Add half the fertilizer to the tank, and then add recommended label amount of 2,4-D AMINE 4 per acre. Agitate constantly and vigorously and finish filling the spray tank with fertilizer. Apply as soon as possible, agitating constantly. Do not hold spray mixture overnight. If incompatibility is a problem, the use of COMPLETE COMPATIBILITY® agent at the recommended label rate may correct the problem. Fertilize according to the recommendations of your supplier or your Extension specialist. Herbicide foliage contact burning may occur as a result of fertilizer use. Lower use rates and concentrations will reduce this problem.
Adjuvants for Preemergence and Preplant Applications: A non-ionic surfactant such as PREFERENCE® or a crop oil concentrate may be added to the spray solution when this product is applied preemergence or preplant to increase control of large or difficult to control weeds. Crop oil concentrates must contain at least 17% emulsifier, and should be used at 1% volume/volume (1 gallon per 100 gallons of spray solution). Non-ionic surfactants should be used at a 0.25% volume/volume (1 quart per 100 gallons of spray solution). Wash spray equipment thoroughly with PROTANK® cleaner after using this product. When cleaning, do not pour washwater on the ground: spray or drain over a large area away from wells or other water sources. Apply the recommended amount of 2,4-D per acre regardless of the amount of diluent used.

When an adjuvant is to be used with this product, Winfield Solutions, LLC recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	3 pints	Apply to orchard floor using coarse sprays and low pressure in sufficient volume of water to obtain thorough wetting of weeds. Treat when weeds are small and actively growing.

RESTRICTIONS AND LIMITATIONS FOR USE UNDER ORCHARD CROPS – Do not use on light, sandy soils. Do not apply to bare ground as crop injury may result, nor apply immediately before irrigation and withhold irrigation for 2 days before and for 3 days after treatment. Do not allow spray to drift onto or contact foliage, fruit, stems, trunks of trees or exposed roots as injury may result. Do not apply to newly established or young orchards. Trees must be at least 1 year old and in vigorous condition. Do not apply during bloom.

- The preharvest interval (PHI) for apples and pears is 14 days; the PHI for stone fruits is 40 days; the PHI for nut orchards is 60 days.
- Do not cut orchard floor forage for hay within 7 days of application.
- Postemergence:
  Limited to 2 applications per crop cycle.
  Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
  For apples, pears, and stone fruit, minimum of 75 days between applications.
  For nut orchards, minimum of 30 days between applications.

ASPARAGUS

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	3 to 4 pints	Apply in 50 - 60 gallons of water per acre for ground application and 12 gallons per acre for aerial application. Apply in the spring on actively growing weeds. If asparagus spears are present, treat immediately after cutting. Make no more than 2 applications during the harvest season and these should be spaced at least one month apart. Spears contacted by the spray may be malformed and off-flavored. If spears are malformed by spray, cut immediately and discard. Post harvest spraying should be only by ground application using drop nozzles to avoid spraying the fern.

RESTRICTIONS AND LIMITATIONS FOR USE IN ASPARAGUS:

- The preharvest interval (PHI) is 3 days.
- Limited to 2 applications per crop cycle.
- Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
- Minimum of 30 days between applications.

CORN – FIELD, SWEET AND POP

WEEDS	Amount Per Acre	DIRECTIONS
Preplant - Annual and biennial broadleaf seedlings Perennial weed seedlings and existing cover crops	1 pint 1 to 2 pints *	Planting of corn must be delayed a minimum of 7 days after application at rates up to 1 pint per acre, and a minimum of 14 days at rates from 1 to 2 pints per acre. Planting sooner after application than specified on this label may result in unacceptable crop injury.
* Use higher rate on hard-to-kill weeds and existing cover crops such as alfalfa. Do not perform tillage for at least 7 days after application. Do not use on sandy soils or unacceptable crop injury may result.		
Preemergence and reduced tillage Broadleaf weeds and annual grasses suppression	2 pints *	Apply after corn is planted but before emergence for control of emerged broadleaf weeds. The seed furrow must be completely closed at application or severe crop injury may result.
* Do not use on sandy soils or unacceptable crop injury may result.		
Postemergence Annual broadleaf weeds Perennial broadleaf weeds	1/2 to 1 pint ** 1 pint **	Apply when corn is less than 8 inches tall, but to avoid crop injury, do not apply just after leaves have unfolded. If corn is over 8 inches tall, use drop nozzles to keep spray off of corn foliage as much as possible. See additional restrictions below. Apply when weeds are in bud to bloom stage. If corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible.
** DO NOT apply from 2 weeks before tasseling to dough stage. DO NOT apply to open whorls. To avoid injury, do not use with atrazine, oil or other adjuvants. Application during high moisture and temperature conditions may cause injury or brittleness. DO NOT cultivate for a week to 10 days after treatment or stalk breakage may occur.		
Late season weed control Preharvest (Field corn and popcorn only)	1 to 2 pints *	Apply after silks are completely brown to reduce weeds that interfere with harvest and reduce weed seed production. Do not apply preharvest to sweet corn.
* Use lower rate for small annual and biennial weeds. Use the higher rate for perennial and larger hard-to-kill annual and biennial weeds.		

RESTRICTIONS AND LIMITATIONS FOR FIELD CORN AND POPCORN:

- Do not use treated crop as fodder for 7 days following application.
- The preharvest interval (PHI) is 7 days.
- Maximum of 6.3 pts. (3 lbs. ae) per acre per crop cycle.
- Preplant or preemergence:

Limited to one preplant or preemergence application per crop cycle.
Maximum of 2.1 pts (1 lb. ae) per acre per application.

- Postemergence:
  Limited to one postemergence application per crop cycle.
  Maximum of 1 pt. (1/2 lb. ae) per acre per application.
- Preharvest:
  Limited to one preharvest application per crop cycle.
  Maximum of 3.15 pts. (1 1/2 lbs. ae) per acre per application.

RESTRICTIONS AND LIMITATIONS FOR SWEET CORN:

- Do not use treated crop as fodder for 7 days following application.
- The preharvest interval (PHI) is 45 days.
- Minimum of 21 days between applications.
- Maximum of 3.15 pts. (1.5 lbs. ae) per acre per crop cycle.
- Preplant or preemergence:
  Limited to one preplant or preemergence application per crop cycle.
  Maximum of 2.1 pts (1 lb. ae) per acre per application.
- Postemergence:
  Limited to one postemergence application per crop cycle.
  Maximum of 1 pt. (1/2 lb. ae) per acre per application.

SOYBEANS

WEEDS	Amount Per Acre	DIRECTIONS
Preplant - emerged broadleaf weeds	1 to 2 pints *	After applying, plant soybean seed as deep as practical or at least 1-1/2 to 2 inches deep. Seed furrow must be completely closed or severe crop injury will result.

RESTRICTIONS AND LIMITATIONS FOR SOYBEANS:
Do not perform tillage for at least 7 days after application. Do not use on sandy soils or unacceptable crop injury may result. Do not replant treated fields in the same growing season with crops that are not labeled for 2,4-D preplant use. Use a minimum spray volume of 10 gallons per acre for ground applications and 2 gallons per acre for aerial applications.

- The maximum rate per crop cycle is 2.1 pts. (1 lb. ae) per acre.
- *Preplant:
  Limited to 2 preplant applications per crop cycle.
  Maximum of 1 pt. (1/2 lb. ae) per acre per preplant application.
  Apply not less than 15 days prior to planting soybeans.

OR

- *Preplant:
  Limited to 1 application per crop cycle.
  Maximum of 2.1 pts. (1 lb. ae) per acre per preplant application.
  Apply not less than 30 days prior to planting soybeans.

SMALL GRAINS - Not underseeded with legumes

WEEDS	Amount Per Acre	DIRECTIONS
Postemergence Spring wheat, barley, millet and rye Annual and biennial weeds	2/3 to 1-1/3 pints *	Apply when grain is in full tiller stage (4 to 8 inches high) but before boot stage (Zadoks 2_5 to 4_0) when weeds are small and actively growing. Up to 1-1/3 pints per acre may be used for difficult weed problems, but do not use unless some crop damage is acceptable.
Perennial broadleaf weeds	2 to 2-1/2 pints **	Apply only in the spring when crop is fully tillered, but before grain is in boot stage (before Zadoks 4_0). For improved control of difficult weeds, apply up to 3 pints per acre.
** DO NOT USE THE HIGHER RATE IF POSSIBLE CROP INJURY IS NOT ACCEPTABLE.		
Spring and winter wheat and barley Resistant weeds	2,4-D Amine 4 may be used in combination with "Ally" ™, "Harmony Extra" ™, "Express" ™, "Finesse" ™, at their earlier application intervals to control resistant weeds such as kochia and Russian thistle. Follow application directions on each product label.	
Winter wheat and rye Annual weeds	1 to 1-1/3 pints **	Apply only in the spring when crop is fully tillered, but before grain is in boot stage (before Zadoks 4_0). For improved control of difficult weeds, apply up to 1-1/3 pints per acre.
** DO NOT USE THE HIGHER RATE IF POSSIBLE CROP DAMAGE IS NOT ACCEPTABLE.		
Emergency weed control in wheat Perennial broadleaf weeds	2-1/2 pints **	Apply when weeds are approaching bud stage, after grain dough stage. Do not apply during boot (Zadoks 2_5 to 4_0) to dough (Zadoks 8_3) stage.
** DO NOT USE THIS RATE UNLESS POSSIBLE CROP DAMAGE CAN BE TOLERATED.		
Spring-seeded oats Fall seeded oats grown for grain (Southern)	1/2 to 1 pint* 1 to 1-1/4 pints*	Apply at full tiller, but before early boot stage (Zadoks 2_5 to 4_0). Apply at full tiller, but before early boot stage (Zadoks 2_5 to 4_0).
* Difficult to control weeds may require higher rate, but some injury may occur since oats are less tolerant to 2,4-D than wheat or barley. DO NOT spray during or just after cold weather.		
Preharvest - Cereal grains	1 pint*	Apply when grain is in hard dough stage (Zadoks 8_7) to control large weeds that will interfere with harvest. Apply when soil moisture is adequate for weed growth for best results.
* Perennial weeds or hard-to-kill annual or biennial weeds may not be controlled at this rate.		

RESTRICTIONS AND LIMITATIONS FOR SMALL GRAINS:

- The preharvest interval (PHI) is 14 days.
- Postemergence:
  Limited to one postemergence application per crop cycle.
  Maximum of 2.63 pts. (1 1/4 lbs. ae) per acre per application.
- Preharvest:
  Limited to one preharvest application per crop cycle.
  Maximum of 1 pt. (1/2 lb. ae) per acre per application.
- Limited to 3.6 pts. (1 3/4 lbs. ae) per acre per crop cycle.

GRAIN SORGHUM

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 pint	Apply to plants that are 5 to 15 inches tall. **DO NOT** treat plants less than 5 inches tall or from boot to early dough stage. Use drop nozzles when crop is 8 inches or taller.
Perennial broadleaf weeds	1-1/2 pints	The higher rate may be needed for some weeds, but chances of crop injury may increase.

DO NOT use oil. Some varieties and hybrids are 2,4-D sensitive. Crop injury may also be increased by high moisture and temperature conditions. Check with your seed company and Extension Service for advice.

RESTRICTIONS AND LIMITATIONS FOR GRAIN SORGHUM:

- The preharvest interval (PHI) is 30 days.
- Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application.
- Postemergence:
  Limited to 1 application per crop cycle.
  Maximum of 2.1 pts. (1 lb. ae) per acre per application.

GRASSES (TURF GROWN FOR SEED OR SOD) (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 to 1-1/2 pints *	Apply to established stands before the seed head comes into the boot stage. Do not spray in boot stage of growth. For seedling grasses - apply in the spring after grass has at least 5 leaves, but before boot stage. Perennial regrowth may be treated in the fall.
Perennial and biennial weeds	2 to 4 pints *	

* Use only the low rate on seedling grasses.

RESTRICTIONS AND LIMITATIONS FOR GRASSES (TURF GROWN FOR SEED OR SOD):

- Limited to 2 applications per year.
- Maximum of 4 pts. (2 lbs. ae) per acre per application.
- Minimum of 21 days between applications.

FALLOWLAND (crop stubble on idle land, or postharvest to crops, or between crops)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 to 2 pints	Use the lower rate for small actively growing weeds. Use the higher rate on larger or weather-stressed weeds.
Biennial weeds	2 to 4 pints	Use the lower rate in the spring on biennial weeds such as the musk thistle during the rosette stage before stalks have formed. Use the higher rate after stalk formation or in the fall.
Perennial weeds	2 to 4 pints	Apply during the bloom to bud stage while weeds are actively growing. Do not till for 2 weeks after treatment or until the weeds start to die.
Wild onions and garlic	4 pints	Apply to regrowth in fall after harvest.

RESTRICTIONS AND LIMITATIONS FOR FALLOWLAND:

- Plant only labeled crops within 29 days following application.
- Limited to 2 applications per year.
- Maximum of 4.2 pints (2 lbs. ae) per acre per application.
- Minimum of 30 days between applications.

HOPS

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	1 pint	Make directed applications to the row middles. Make up to 3 applications at 30-day intervals with the last application before harvest.

PRECAUTIONS: Hop foliage, especially new growth, is susceptible to this product. Take care to avoid spray or drift outside target area. The use of shielded or hooded sprayers, coarse sprays and low pressure (30 psi or less) will minimize contact with foliage and plant injury.

RESTRICTIONS AND LIMITATIONS FOR HOPS:

- The preharvest interval (PHI) is 28 days.
- Postemergence:
  Limited to 3 applications per crop cycle.
  Maximum of 1 pint product (1/2 lb. ae) per acre per application.
  Maximum of 3.16 pints product (1 1/2 lbs. ae) per acre per crop cycle.
  Minimum of 30 days between applications.

PASTURES, RANGELAND, CONSERVATION RESERVE PROGRAMS AND SET-ASIDE ACRES (not in agricultural production)

WEEDS AND BRUSH	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Biennial and perennial weeds*	1 quart 1 to 2 quarts	Do not apply after heads form or when grass is in boot to milk stage when a seed crop is desired. **DO NOT** use on alfalfa, clover, other legumes, or newly seeded pastures. For aerial application, apply the recommended amount in a minimum of 2 gallons of water per acre. For ground application, use a minimum of 10 gallons of water per acre.
Buckbrush, coyotebrush, rabbitbrush, sagebrush, and other chaparral species	2 quarts	Apply in 5 to 10 gallons of water plus 1-2 quarts of a crop oil concentrate with at least 17 % emulsifiers, per acre or a non-ionic surfactant at .25% v/v surfactant to water - (1 quart per 100 gallons of water) per acre.
Sand shinnery oak	2 quarts**	Apply 4 gallons of water plus 1-2 quarts of a crop oil concentrate with at least 17 % emulsifiers per acre or a non-ionic surfactant at .25% v/v surfactant to water - (1 quart per 100 gallons of water) per acre.

* Deep-rooted perennial weeds may require the higher rate or a repeat treatment. ** Woody plants and any regrowth may require a repeat treatment.

RESTRICTIONS AND LIMITATIONS FOR PASTURES, RANGELAND, AND PROGRAM AREAS:

- The preharvest interval (PHI) is 7 days (cut forage for hay).
- Postemergence:
  Limited to 2 applications per year.
  Maximum of 4.2 pints (2 lbs. ae) per acre per application.
  Minimum of 30 days between applications.
  If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.
  For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

RICE (Do not use in California)

WEEDS	Amount Per Acre	DIRECTIONS
Preplant – annual and biennial weeds	1 to 2 pints	Apply 4 or more weeks prior to planting
Postemergence – annual and biennial weeds	1 to 2-1/2 pints	Apply in the late tillering stage of rice development at the time of first joint development (first to second green ring) usually 6 to 9 weeks after emergence. Do not apply after panicle initiation, after rice internodes exceed 1/2 inch, at early seedling, early panicle, boot, flowering or early heading growth stages.
Perennial and hard-to-kill weeds	2 to 3 pints*	

RESTRICTIONS AND LIMITATIONS FOR RICE: Some rice varieties under certain conditions can be injured by 2,4-D. Consult with appropriate agencies prior to application of this product for aquatic weed control. *DO NOT use this rate unless possible crop damage can be tolerated.

- The preharvest interval (PHI) is 60 days.
- Maximum of 3.16 pts. (1 1/2 lbs. ae) per acre per crop cycle.
- Preplant:
  Limited to one preplant application per crop cycle.
  Maximum of 2.1 pts. (1 lb. ae) per acre per preplant application.
- Postemergence:
  Limited to one postemergence application per crop cycle.
  Maximum of 3.16 pts. (1-1/2 lbs. ae) per acre per postemergence application.

WILD RICE (For use in Minnesota only)

WEEDS	Amount Per Acre	DIRECTIONS
Common waterplantain	1/2 pint	Broadcast in 4 to 10 gallons total spray volume. Apply after waterplantain has emerged from the water and when wild rice is in the 1 to 2 aerial leaf to early tillering stage. Do not spray after wild rice has reached the boot stage.

RESTRICTIONS AND LIMITATIONS FOR WILD RICE – For use only on wild rice grown in commercial paddies. Do not apply to wild rice growing in lakes, rivers or streams. Water that is drained out of wild rice paddies is not to be used to irrigate other crops. In order to protect federally listed endangered or threatened species, the Minnesota Department of Agriculture has a program to pre-notify landowners where pesticide applications may affect federally listed endangered or threatened species.

- The preharvest interval (PHI) is 60 days.
- Postemergence:
  Limited to 1 application per crop cycle.
  Maximum of 1/2 pt. (1/4 lb. ae) per acre per application.

STRAWBERRIES (Established plantings only)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds - In established strawberry plantings only	2 to 3 pints	Apply in 25 to 50 gallons of water per acre. Apply in early spring when strawberries are dormant or immediately after the last picking. Do not apply unless possible injury to the crop is acceptable. Follow recommendations of State Extension Horticultural Specialist in the area.

RESTRICTIONS AND LIMITATIONS FOR STRAWBERRIES:

- Do not apply in California or Florida.
- Dormant or after last picking:
  Limited to 1 application per crop cycle.
  Maximum of 3.15 pts. (1.5 lbs. ae) per acre per application.

SUGARCANE

WEEDS	Amount Per Acre	DIRECTIONS
Preemergence–broadleaf weeds	2 quarts	Apply to emerged weeds before canes appear.
Postemergence – Annual and biennial weeds	2 quarts	Apply in the spring after canes emerge and through layby.

RESTRICTIONS AND LIMITATIONS FOR SUGARCANE:

- Do not harvest cane prior to crop maturity.
- Do not apply more than 8.4 pts. (4 lbs. ae) per acre per crop cycle.
- Preemergence:
  Limited to 1 application per crop cycle
  Maximum of 4.2 pints (2 lbs. ae) per acre per application.
- Postemergence:
  Limited to 1 application per crop cycle.
  Maximum of 4.2 pints (2 lbs. ae) per acre per application.

NON-CROPLAND (Fencerows, hedgerows, roadsides, ditches, rights-of-way, utility power lines, railroads, airports, and industrial sites)

Spot Treatment: To control broadleaf weeds or brush in small non-cropland areas, apply 6 fl. oz. in 3 gallons of water, mixing thoroughly, and spray to run-off. This high dosage rate may only be used where injury may be tolerated.

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds	2 to 4 pints	Apply when weeds are young and growing vigorously.
Perennial and biennial broadleaf weeds	1 to 2 quarts	Spray perennial weeds when near the bud stage, but not flowering. Do not use on St. Augustine grass. Bentgrass, clover, legumes and dichondra may be injured. Do not apply to newly seeded areas until grass is well established. Deep-rooted perennials may require repeated treatments.
Tansy ragwort and musk thistle		Apply in rosette stage before bolting.
Wild onion and wild garlic		Treat in the early spring and fall when young and actively growing.
TREE, BRUSH, WOODY PLANTS	**Amount Per Acre**	**DIRECTIONS**
Southern wild rose	1 gallon	On roadsides and fencerows, apply with 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed.
Woody plants - Ground application	3 quarts	Apply in 20 to 100 gallons of water. For increased effectiveness, add a crop oil concentrate with at least 17% emulsifiers at 1-2 quarts per acre or a non-ionic surfactant at .25% v/v surfactant to water -- 1 quart per 100 gallons of water. Spray volumes of up to 500 gallons per acre may be needed for control if brush is dense.
Woody plants - Aerial application	2 to 4 quarts	For solid stands of susceptible brush, apply in 3 to 12 gallons volume per acre. 2 to 4 quarts of fuel oil may be included in this mixture.

RESTRICTIONS AND LIMITATIONS FOR NON-CROPLAND:

- Postemergence (annual and perennial weeds):
  Limited to 2 applications per year.
  Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
  Minimum of 30 days between applications.
- Postemergence (woody plants):
  Limited to 1 application per year.
  Maximum of 8.4 pts. (4 lbs. ae) per acre per year.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

TURF, ORNAMENTAL (golf courses, cemeteries, parks, sports fields, turfgrass, lawns, and other grass areas)

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Biennial and perennial weeds	2 pints 2 to 4 pints *	Do not apply to newly seeded areas until grass is well established. Where bentgrass predominates, apply 2 times using a 1 pint per acre rate at 3 week intervals. Do not use on susceptible southern grasses such as St. Augustine. Bentgrass, dichondra, legumes and clover may be injured by this treatment.
* Deep-rooted perennials may require repeat treatments.		
RESTRICTIONS AND LIMITATIONS FOR ORNAMENTAL TURF: • Postemergence: Limited to 2 applications per year. Maximum of 3.15 pts. (1 1/2 lbs. ae) per acre per application. The maximum seasonal rate is 6 pts. (3 lbs. ae) per acre, excluding spot treatments.		

USES IN FOREST MANAGEMENT

Conifer Release		
BRUSH, HARDWOODS	**Amount Per Acre**	**DIRECTIONS**
Alder	1-1/2 to 2 quarts	Apply in 8 to 25 gallons of water as a foliar spray. Treat when 3/4 of the brush foliage has attained full-sized leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth and brush species. Treatment may cause leader deformation on exposed firs, but firs should overcome this during the second year after spraying.
Ceanothus spp., chinquapin, madrone, manzanita, oak and tanoak	3 quarts	To release Douglas fir, hemlock, Sitka spruce or grand fir, apply in 8 to 25 gallons of water before new growth on Douglas fir is 2 inches long. To control manzanita and ceanothus in ponderosa pine, apply before pine growth begins in spring. To increase performance, add suitable approved agricultural surfactant at recommended label rate.
Alder, aspen, birch, willow, other competing hardwood species	1-1/2 to 3 quarts	After northern conifers, jack pine, red pine, black spruce, and white spruce cease growth and "harden off" (usually in mid-July), apply in 8 to 25 gallons of water by air. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult regional or extension forester or State herbicide specialist for recommendations to fit local conditions.
Tree Injections (Pine Release)		
HARDWOODS	**Amount Per Acre**	**DIRECTIONS**
Oak, hickory, maple, pecan, elm, sumac, sweetgum, hawthorn, dogwood, blue beech, and ash	1 to 2 mL	Apply 1 to 2 mL undiluted product in a concentrate tree injector. Space injections 2 inches apart edge-to-edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as hickory, dogwood, red maple, blue beech and ash, make injections 1 to 1-1/2 inches apart, edge-to-edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 to October 15. For dilute injections, mix 1 gallon of product in 19 gallons of water.
Dormant Application (other than pine)		
BRUSH	**Amount Per Acre**	**DIRECTIONS**
Alder, cascara, cherry poplar, and serviceberry	3 quarts	Apply product per acre in sufficient diesel, fuel oil or kerosene for good coverage. Application may be made by ground or air and should be made before conifer budbreak

Pine Only		
BRUSH, HARDWOODS	**Amount Per Acre**	**DIRECTIONS**
Alder, cascara, cherry poplar and serviceberry	2 quarts	Make application while pine buds are still dormant. Apply in sufficient water for good coverage by air or ground equipment. Do not use this application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.
Herbaceous Weed Control		
WEEDS	**Amount Per Acre**	**DIRECTIONS**
False dandelion, klamath weed, plantain, tansy ragwort	1 to 3 quarts	To control over-wintering weeds, apply in sufficient water for good coverage. Make application at rates and timing indicated above if pines are present.
Hazel brush and similar species (Lake States area)	2 quarts	Apply in 8 to 25 gallons of water when new shoot growth of hazel is complete (usually mid-July).
Site Preparation		
BRUSH	**Amount Per Acre**	**DIRECTIONS**
Alder	2 to 4 quarts	As budbreak spray: Prior to planting seedlings, apply 2 to 4 quarts in 8 to 25 gallons of water after alder budbreak but before foliage is 1/4 full size. Application may be made by air or ground. OR As foliage spray: Prior to planting seedlings, apply 2 quarts in 8 to 25 gallons of water after most alder leaves are full size. To increase penetration, a suitable approved agricultural surfactant at recommended label rates may be added to spray mixture.

RESTRICTIONS AND LIMITATIONS FOR ALL FORESTRY USES:

- Broadcast application:
  Limited to 1 broadcast application per year.
  Maximum of 8.4 pints (4 lbs. ae) per acre per broadcast application.
- Injection:
  Limit to one injection application per year.
  Maximum of 2 ml of 4 lbs. ae formulation per injection site.

POPLAR/COTTONWOOD TREES GROWN FOR PULP IN OREGON AND WASHINGTON

WEEDS	**Amount Per Acre**	**DIRECTIONS**
See the general weeds controlled list	1/2 to 3 pints	Apply through wick applicators or conventional ground sprayers. Note: When irrigating with overhead sprinklers, do not apply this product before an irrigation and withhold irrigation for 2 days before and 3 days after treatment. Do not allow product to contact leaves or green bark of the tree. Apply in enough water to provide uniform coverage prior to or after planting of poplar/cottonwood trees. Application during warm weather is preferred. Apply when weeds are actively growing, preferably before bud stage. Accord® may be mixed with this product to increase weed control. Follow both labels to determine correct rates. Two quarts or more of Preference Spreader Activator per 100 gallons of spray solution may be added to improve herbicide performance.

RESTRICTIONS AND LIMITATIONS FOR POPLAR/COTTONWOOD TREES GROWN FOR PULP IN OREGON AND WASHINGTON:

- Broadcast application:
  Limited to 1 broadcast application per year.
  Maximum of 3.15 pints (1 1/2 lbs. ae) per acre per broadcast application.

WEEDS ON IRRIGATION CANALS AND DITCH BANKS

WEEDS	Amount Per Acre	DIRECTIONS
Annual broadleaf weeds Perennial weeds	1 quart 1 to 2 quarts*	Apply in approximately 20 to 100 gallons of total spray. Treat when weeds are young and actively growing before the bud or early bloom stage.
Brush and patches of perennial weeds	2 quarts	Apply in 150 gallons of water. Spray to thoroughly wet foliage, using about 1 gallon of spray solution per square rod.

RESTRICTIONS AND LIMITATIONS FOR IRRIGATION CANALS AND DITCH BANKS:

- Postemergence:
  Limited to 2 applications per season.
  Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
  Minimum of 30 days between applications.
  Spot treatment permitted.
  Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.). Repeat 3 times and use the average to calculate CFS.
  Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

SPRAYING INSTRUCTIONS

Low pressure (10 to 40 PSI) power spray equipment should be used and mounted on a truck, tractor, or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water.
Spray when air is calm, 5 mph or less.
For Ditch Bank Weeds: Do not spray cross-stream to opposite bank. Do not allow boom spray to be directed onto water.
For Shoreline Weeds: Allow no more than 2 foot overspray onto water.

AQUATIC SITES WITH EMERGENT WEEDS, SUCH AS WATER HYACINTH, IN QUIESCENT OR SLOW-MOVING WATERS (RIVERS, STREAMS, LAKES, PONDS, RESERVOIRS, BAYOUS, DRAINAGE DITCHES, NON-IRRIGATION CANALS AND MARSHES)

WEEDS	Amount Per Acre	DIRECTIONS
Surface Application	2-1/2 to 4-1/4 pints	Apply in 50 to 100 gallons of water per acre. Use power sprayers operated with a boom or spray gun mounted on a boat, tractor or truck. Spray to wet foliage thoroughly. Application should be made when leaves are fully developed, above water line and plants are actively growing. Avoid spray drift to sensitive crops with low pressure and large nozzles or by using drift control or thickening agents. The maximum rate may be needed for mature plants or dense growth.
Aerial Application	1 gallon	Apply in 5 to 15 gallons of water to cover one surface acre. Use drift control spray equipment or thickening agents mixed into the spray solution. Apply through standard boom systems with a minimum of 5 gallons of spray mix per acre.

SPRAYING INSTRUCTIONS

Do not apply to more than 1/3 to 1/2 of the water area in any one month because excessive decaying vegetation may deplete oxygen content of water and kill fish. Waters having limited and less dense weed infestations may not require partial treatments. Other local factors such as water exchange and sediment load can also influence the dissolved oxygen level. Begin treatments along the shore and proceed outwards in bands to allow fish to move into untreated areas. For large bodies of weed infested waters, leave buffer strips of at least 100 feet wide and delay treatment of these strips for 4 to 5 weeks or until the dead vegetation has decomposed. Repeat as necessary to kill regrowth and plants missed in previous application.

RESTRICTIONS AND LIMITATIONS FOR SURFACE APPLICATIONS TO EMERGENT AQUATIC WEEDS

- Do not exceed 4.2 quarts (4 lbs. ae) per surface acre per application.
- Limited to 2 applications per season.
- Do not make a broadcast application within 21 days of previous broadcast application. Spot treatments are permitted.
- Do not contaminate water used for irrigation or domestic purposes except as indicated in directions for irrigation ditch banks.
- Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for aquatic application.

<u>Water Use following surface applications to emergent aquatic weeds:</u>

1. **Water for irrigation or sprays:**

   A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.

   B. Due to potential phytotoxicity considerations, the following restrictions are applicable:
   Do not use water from treated areas for overhead sprinkler system to irrigate susceptible crops such as grapes, tomatoes, and cotton.

   If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses; and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:

   i. A setback distance from functional water intake(s) of ≥600 ft. was used for the application, or,

   ii. A waiting period of 7 days from the time of application has elapsed, or,

   iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.

2. **Drinking water (potable water):**
   A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits.

      The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
   B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is ≥600 ft.
   C. If no setback distance of ≥600 ft. is used for the application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for a public water supply or to individual private water users. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of a water use restrictions when this product is applied to potable water.

      The following is an example of an example of notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

      Example:
      Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

      Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).
      Application Date: _____ Time: _____ .
   D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
      i. A setback distance from functional water intake(s) of ≥600 ft. was used for the application, or,
      ii. A waiting period of at least 7 days from the time of application has elapsed, or,
      iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
   E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
   F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.
3. **There are no restrictions** on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE,

WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

"Ally", "Harmony Extra", "Express", and "Finesse" are registered trademarks of E.I. duPont de Nemours and Company.
"Accord" is a trademark of Monsanto Company.
"AgriSolutions" is a trademark and "Preference," "Complete Compatibility" and "Protank" are registered trademarks of Winfield Solutions, LLC.

SPECIMEN LABEL

HELENA

HardBall

ACTIVE INGREDIENT:

2,4-Dichlorophenoxyacetic Acid 19.6%

INERT INGREDIENTS: 80.4%

TOTAL.....100.0%

Equivalent to 19.6% 2,4-D Acid or 1.74 lb./gal.
Isomer specific by AOAC Method 6.D01-5 (12th Ed.)
Patent No. 5,877,112
Other Patents Pending

KEEP OUT OF REACH OF CHILDREN

DANGER-PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you.)

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER – PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Harmful if inhaled. Do not get in eyes or on clothing. Avoid breathing spray mist or vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

FIRST AID

IF IN EYES:
- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor immediately for advice.

IF SWALLOWED:
- Call a poison control center or doctor immediately for advice.
- Have person sip a glass of water.
- Do not induce vomiting unless instructed to do so by poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

IF INHALED:
- Move victim to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration preferably mouth-to-mouth if possible.
- Call a poison control center or doctor immediately for further treatment advice.

IF ON SKIN OR CLOTHING:
- Take off contaminated clothing.
- Rinse immediately with plenty of water for 15-20 minutes.
- Call a poison control center of doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency assistance call toll-free, 1-800-424-9300 (ChemTrec).

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Causes irreversible eye damage.

EPA REG. NO. 5905-549 SN 1206/1008

Disclaimer: Always refer to the label on the product before using or any other product.

SPECIMEN LABEL

EPA EST. NO.: First Letters of Product Batch Code Indicate Producing Establishment. 5905-AR-1=WA • 5905-GA-1=CG • 5905-IA-1=DI • 5905-CA-1=KC

NET CONTENTS:
- 1 Gallon (3.785 Liters)
- 2.5 Gallons (9.46 Liters)
- 30 Gallons (113.55 Liters)
- 55 Gallons (208.18 Liters)
- 250 Gallons (946.25 Liters

MANUFACTURED FOR
CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant are made of barrier laminate, nitrile rubber, neoprene rubber or viton. If you want more options, follow the instructions for category F on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

- long-sleeved shirt and long pants,
- shoes and socks, plus
- face shield or goggles,
- chemical resistant gloves when applying with any handheld equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate, and
- Chemical resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements.

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses: This product may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Aquatic Weed Control: Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

Groundwater Contamination: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

This product may cause injury to desirable plants by contacting foliage, stems or roots. Use care in all applications to avoid surface water or soil transport to non-target plant areas. Avoid contamination of irrigation or domestic water supplies. Avoid applications in the vicinity of susceptible plants or when winds are blowing toward nearby susceptible plants or when temperature inversions are expected. Avoid direct application or spray drift to susceptible plants since very small quantities of this herbicide can cause severe injury in the growing or dormant period. Plants contacted may be killed or suffer significant injury resulting in grade or yield losses. Do not apply in greenhouses.

Use an agriculturally accepted drift retardant designed to increase droplet size.

CHEMIGATION PROHIBITION

Do not apply this product through any type of irrigation system.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any water-proof material
- Shoes plus socks
- Protective Eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

USE REQUIREMENTS FOR PASTURES, PERENNIAL GRASSLANDS, RANGELAND, FALLOW LAND AND NONCROP AREAS: Do not enter treated areas until spray has dried.

TURF USE REQUIREMENTS: Do not allow persons (other than applicator) or pets on treated area during application. Do not enter treated areas until spray has dried. NOTE: For application to turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes, follow AGRICULTURAL USE REQUIREMENTS on this label.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b)stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

***Additional requirements for aerial applications*;**

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

***Additional requirements for ground boom application*"**

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not store below temperature of 0°F. If frozen, warm to 40°F and re-dissolve before using by rolling or shaking container. This product can be stored in an unheated building. Store in a safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Do not store under conditions which might adversely affect the container or its ability to function properly.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Metal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Plastic: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable-Refillable Container (Drum): After use, return the container to the point of purchase or designated locations. This container must only be filled with ® **HardBall. DO NOT RE-USE THIS CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return to the point of purchase.

Disclaimer: Always refer to the label on the product before using or any other product.

GENERAL INFORMATION

Local conditions, crop varieties, and application method may affect performance of this product. User should consult local extension service, agricultural experiment station, or university weed specialists, and state regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than recommended will not be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, the higher recommended rates should be used. When product is used for weed control in crops, the growth stage of the crop must be considered. Some plants and weeds, especially woody varieties, are hard to control and may require repeat applications. Application rates should be 1 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of **HardBall** per acre. **HardBall** should not be allowed to come into contact with desirable, susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes and other vegetables.**HardBall** should not be used in greenhouses. If stored below freezing, it may be necessary to warm product to 40°F and agitate before using. This does not affect the efficiency of the product. Spray equipment used to apply **HardBall** or other products containing 2,4-D should not be used for any other purpose until thoroughly cleaned with a suitable chemical cleaner.

WEEDS CONTROLLED

HardBall will control or partially control the following as well as many other noxious plants susceptible to 2,4-D:

Alders	Alligatorweed
American Lotus	Arrowhead
Artichoke	Austrian Fieldcress
Biden	Bittersweet
Bittercress, smallflower	Black-eyed Susan
Bitterweed	Bitter wintercress
Blessed Thistle	Blue lettuce
Blue Thistle	Blueweed, Texas
Box elder	Broomweed, common
Buckhorn	Bull nettle
Bull Thistle	Bulrush
Burdock,common	Bur ragweed
Buttercup, smallflowered	Burhead
Carpetweed	Carolina geranium
Chickweed	Catnip
Chicory	Cinquefoil, common & rough
Cockle	Cocklebur, common
Coffeebean	Coffeeweed
Creeping jenny	Cornflower
Croton (Texas, woolly)	Curly indigo
Dandelion	Devil's Claw *Proboscidea louisianica*
Dogfennel (mayweed)	Duckweed
Evening primrose, common	Elderberry
Fanweed	Evening primrose, cutleaf
Fleabane	Fixweed
Florida Pusley	Figwort
Four o'clock	Goosefoot
Frenchweed	Galinsoga (elderberry, hairy)
Goatsbeard	Gumweed
Hemp	Healall
Henbit	Horsetail
Honeysuckle	Indian Mallow
Indigo	Jewelweed
Jerusalem artichoke	Klamathweed
Jimsonweed	Lambsquarters, common
Ladysthumb	Marijuana

SPECIMEN LABEL

Loco, Bigbend
Marestail
Mexican weed
Morningglory (annual, common, ivy, wo
Mustards (except blue), prior to bolting
Parrotfeather
Pennywort
Plantains
Peppergrass
Pokeweed
Poverty weed
Prickly lettuce
Purslane, common
Radish
Ragweeds (common, giant)
Rough fleabane
Shepherdspurse
Sneezeweed, bitter
Spanish Needles
Stinging Nettles
Stinkweed
Sunflower
Sweetclover (annual)
Tarweed
Thistles
Toadflax
Tumbleweed
Vetches, except hairy
Virginia creeper
Water lily
Wild carrot
Wild hemp
Wild mustard
Wild radish
Wild sweet potato
Witchweed
Yellow goatsbeard
Yellow starthistle

Mallow (Venice, dwarf, little)
Marshelder
Milk vetch
Mousetail
Nutgrass
Parsnip
Pennycress (fanweed)
Pepperweeds (except perennial)
Poison ivy
Poorjoe
Primrose
Puncture vine
Quickweed
Redstem
Rush
Sicklepod
Sowthistle (annual, spiny)
Spatterdock
Speedwell
St. John's Wort
Sumacs
Tanweed
Velvetleaf
Venicemallow
Virginia copperleaf
Water hyacinth
Water plantain
Water primrose
Water shield
Wild lettuce
Wild parsnip
Wild rape
Wild strawberry
Willow
Wormwood
Yellow rocket

Weeds Partially Controlled (Higher rates and/or repeated applications may be needed):

Alfalfa
Bindweeds (hedge, European)
Bull thistle
Chamise
Corn gromwell
Dandelion
Dogbanes
Ground ivy
Henbit
Ironweed
Knotweed
Manzanita
Nettles
Prickly lettuce
Russian thistle
Sagebrush (big, sand)
Sand shinnery oak
Salt Cedar (T. ramossissim)
Smartweed, Pennsylvania
Vervains
Western ironweed
Wild garlic

Beggarticks
Buckbrush
Canada thistle
Clover, red
Coyotebrush
Docks
Goldenrod
Hawkweed
Hoary cress
Mallow
Many-flowered aster
Musk thistle
Orange Hawkweed
Peppergrass
Rabbitbrush
Sage, coastal
Salsify (western, common)
Smartweed, annual

Tansyragwort
Vetch, hairy
Wild carrot
Wild onion

Weeds Partially Controlled And For Which Locally Resistant Biotypes May Occur:

Pigweed

Disclaimer: Always refer to the label on the product before using or any other product.

Weeds Suppressed When Another Labeled Herbicide Is Also Applied:
Bindweed (field) Russian knapweed

MIXING INSTRUCTIONS

HardBall is a macro-emulsifiable concentrate formulation intended for dilution in water for many applications. For certain specified applications, liquid fertilizer or oil may replace part or all of the water as diluent.

If dry flowable (DF), wettable powder (WP) or flowable (F) tank mix products are to be used, these should generally be added to the spray tank first. Refer to the mixing directions on the labels of the tank mix products.

For best results, thoroughly clean sprayer immediately after use by flushing system with water and heavy duty detergent such as Wipe Out®.

Water Spray: To prepare a water spray mixture, fill clean spray tank about 1/2 to 2/3 full with clean water. With agitation turned on, add the required amount of **HardBall.** Continue agitation while adding balance of water and during spray operations. NOTE: In water this product forms a macro-emulsion and can separate upon prolonged standing. If spray mixture is allowed to stand, agitate again to assure uniformity.

Liquid Fertilizer Spray: Due to increased risk of crop foliage burn with fertilizer, use only as recommended on this label or supplemental labeling distributed for **HardBall.** Use fertilizer rate recommended locally. Fill clean spray tank about 1/2 to 2/3 full with liquid nitrogen fertilizer (UAN or urea) solution. Add required amount of product with vigorous agitation running. Continue agitation while adding balance of liquid fertilizer and during spray operations. Application should be made immediately. Overnight storage of mixture is not recommended. Application during very cold (near freezing) temperatures is not advisable because of the likelihood of crop injury. This product is formulated to be compatible with most liquid nitrogen solutions, however, due to variability in fertilizers, users may wish to perform a jar compatibility test before large scale mixing.

Oil Spray: Use only as recommended on this label or supplemental labeling distributed for **HardBall**. Fill clean spray tank about 1/2 to 2/3 full with an oil approved for agricultural use (diesel oil, fuel oil, stove oil, etc.). Add required amount of product with agitation turned on. Continue agitation while adding balance of oil. The resulting mixture is a solution and will generally remain uniform without agitation once mixed. However, agitation is suggested if available. Do not allow any water to get into the spray mixture to avoid formation of an invert emulsion (mayonnaise consistency).

Water Spray With Oil: Use only as recommended on this label or supplemental labeling distributed for **HardBall**. Where a combination of water and oil diluent is recommended, the use of emulsifiable crop oil or crop oil concentrate is suggested since mild agitation will be sufficient. Mix in the sequence of water, product, and oil. If diesel or other non-emulsified oils listed above under "Oil Spray" are desired for use with water, add no more than 1 quart of such oil per 1 gallon of water and agitate vigorously until tank is emptied. If possible, premix non-emulsified oil with this product and add this premix to a mostly filled spray tank with agitation on. Follow these procedures carefully to avoid formation of an invert emulsion (mayonnaise consistency).

APPLICATION PROCEDURES

Use calibrated spray equipment for all types of applications to assure applying the recommended amount of spray mixture per acre. Use sufficient spray volume within the ranges specified to obtain good coverage of weeds. **HardBall** is absorbed sufficiently within 1 hour after application to provide adequate weed control.

Ground Broadcast Spray: Unless otherwise specified in the appropriate crop or non-crop directions, apply in 5 or more gallons of spray solution per acre. Use enough spray volume to provide uniform coverage of weeds, taking into account the amount of vegetation present and the type of application equipment to be used. As crop canopy and weed density increase, a higher spray volume may be needed for equivalent coverage and weed control. Typical

crop applications utilize 10 to 50 gallons of spray solution per acre, while certain high volume non-crop applications may utilize more than 100 gallons per acre. Use coarse sprays to minimize potential spray drift. Do not apply with hollow cone nozzles or other nozzles that produce fine spray droplets. Boom spraying with flat fan or low volume nozzles is generally most suitable for ground broadcast applications.

Ground Band Spray: Determine band equivalents to broadcast rates and volumes by the following formulas:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Band rate per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Band volume per acre}$$

***Aerial Broadcast Spray*:** Unless otherwise specified in the appropriate crop or non-crop directions, apply in 1 to 5 gallons of spray solution per acre. For best coverage and weed control, as well as reduced potential for spray drift, a minimum of 3 gallons per acre is suggested. Avoid using nozzles or nozzle configurations that generate fine droplets. One configuration usually found to be suitable includes straight stream nozzles (such as disk with no swirl plate) directed straight back along the wind stream. Mechanical flagging or GPS (Global Positioning Systems) is suggested to obtain more uniform application.

With fixed-wing or helicopter application, an exactly even swath deposition may not be achieved, and consequently, crop injury or pesticide nonperformance may result wholly or in part. Do not apply by air during periods of thermal inversion. Avoid application if potential for drift is excessive and/or susceptible crops are growing in the vicinity.

TANK MIXES

Unless otherwise prohibited on this label or the label of an intended tank mix product, this product may be applied in combination with any herbicide registered for the same crop, timing, and method of application. Observe the most restrictive label statements of various tank mix products used. LIABILITY FOR CROP INJURY RESULTING FROM A TANK MIXTURE NOT SPECIFIED ON THIS LABEL, OR SUPPLEMENTAL LABELING DISTRIBUTED FOR **HardBall**, IS SPECIFICALLY DISCLAIMED BY CHEMICAL COMPANY.

Glyphosate Tank Mixes:
HardBall + Glyphosate (various formulations) may be used on all approved crops, use sites and use patterns, approved on both labels. **HardBall** should be used at the rate of 1.5-3 pints in combination with the appropriate rate of Glyphosate per acre to provide best control of weed pest species. Consult the Glyphosate label to determine proper rate of Glyphosate to be used in combination with **HardBall**.

COMPATIBILITY

Before full-scale mixing of this product with other herbicides, fertilizer solutions and adjuvants, it is advisable to determine the compatibility of the proposed mixture. Use proportionate quantities of each ingredient and mix in a small container. Always mix one product thoroughly with the diluent before adding another product. If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying.

PLANTING IN TREATED AREAS

Labeled Crops: Within 29 days following an application of this product, plant only those crops named as use sites on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in the directions for individual crops. Labeled crops may be at risk for crop injury or loss when planted soon after application, especially in the first 14 days. Degradation factors described below should be considered in weighing this risk.

Other Crops: All other crops may be planted 30 or more days following an application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops.

Degradation factors described below should be considered in weighing this risk. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

Degradation Factors: When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid degradation of 2,4-D. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local Agricultural Extension Service for information about susceptible crops and typical soil conditions in your area.

APPLICATIONS

READ ALL PROCEEDING GENERAL SECTIONS OF LABEL AND WARRANTY BEFORE USE.

Unless otherwise specified, applications may be made by ground or air equipment. Ground applications may provide more thorough coverage and better weed control. For selective postemergent weed control in crops, do not add oil, surfactant, fertilizer or other additives unless specifically recommended on this label or supplemental labeling.

ROADSIDES; MEDIANS; HIGHWAY, RAILROAD, UTILITY AND PIPELINE RIGHTS-OF-WAY; VACANT LOTS; AROUND UTILITY INSTALLATIONS, TRANSFORMERS, PUMP HOUSES, AND BUILDINGS; STORAGE AREAS; FENCES; GUARDRAILS; LUMBER YARDS; INDUSTRIAL SITES; AIRPORTS; TANK FARMS; FARMSTEADS; AND SIMILAR NONCROP AREAS

For the control of many broadleaf weeds and small woody plants, applications may be as broadcast sprays, small areas or spot treatments. Regardless of the method of application, use adequate spray volume for full coverage of weeds. Preferred application timing is in the early spring when sufficient weeds have emerged, and are still small an actively growing and before weeds are too mature.

Summer applications to older, drought–stressed weeds are less effective. However, weeds and small woody plants are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost.

Postemergence (annual and perennial weeds):

- Limited to 2 applications per year.
- Maximum of 4.5 quarts (2.0 lbs) ae/acre per application.
- Minimum of 30 days between applications.

Note: Plant Response: Bent grass, other warm season or southern grasses, alfalfa, clover or other legumes may be killed or injured. Do not apply when grass is in boot to milk stage, or after heading begins, if grass production is desired. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application. Do not make repeat applications within 30 days of the previous application. Apply no more than 4.5 quarts (2.0 lbs acid equivalent) per acre per use season

Postemergence (woody plants):

- Limited to 1 application per year.
- Maximum of 2.25 gallons (4.0 lbs) ae/acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Postemergence Control of Annual and Perennial Weeds: Apply 0.5 - 1 gallon of **HardBall** to emerged weeds. For best results treat when weeds are young and actively growing.

Postemergence Control of Woody Plants: Apply 0.5 – 2 gallons of **HardBall** to trees and brush when foliage is fully expanded and plants are actively growing.

Special Uses:

On rights-of-way: Up to2.25 gallons (4.0 lbs acid equivalent) can be applied in a single application. This includes electrical power lines, communication lines, pipelines, highways, and railroads that intersect wooded areas or stands of trees, brush and woody plants. Usage under this section is not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

SOD FARMS

HardBallis intended for use on Sod Farms to provide selective control of certain broadleaf weeds in cool season and warm season turfgrasss established for commercial sod production. Apply **HardBall**to actively growing broadleaf weeds. Follow up may be required for dense infestations of perennial and biennial weeds. For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed until two days after application. Do not apply to newly seeded areas until grass is well established and has been mowed at least twice.

Reseeding Grass areas: Do not reseed until at least 30 days after application of ® **HardBall**. Seeding a small area and observing response is recommended before a large scale seeding is accomplished.

Application Rates:

HardBallapplication rates and spray volumes will vary with the growth stage and population of broadleaf weeds to be controlled. In general the smaller the weed the lower use of the recommended rate range will provide satisfactory control. The larger the weed, the population and environmental conditions will require the higher end of the rate range to achieve satisfactory control especially for many of the perennial broadleaf weeds.

Rate Recommendations For Sod Farms

Species	Amount of Product Pints/acre	Spray Volume Gallons/Acre
Cool Season Turf		
Kentucky Bluegrass	2 to 3.5	20 to 100
Perennial Ryegrass	2 to 3.5	20 to 100
Fescue spp.	2 to 3.5	20 to 100
Creeping Bentrgass	. 1 .5	20 to 100
Warm Season Turf		
Centipede grass	1.5 to 2.5	20 to 100
Common Bermudgrass	1.5 to 2.5	20 to 100
Hybrid Bermudagrass	1.5 to 2.5	20 to 100
Bahiagrass.	1.5 to 2.5	20 to 100
Zoysiagrass	1.5 to 2.5	

Precautions and Limitations for SOD FARMS:

- Limited to two (2) applications per year
- Maximum of 4.5 quarts (2 lbs ae) per acre per application
- Retreatment interval is 21 days.
- Do not apply this **HardBall**to any variety of St Augustine grass. Do not use **HardBall**on carpet grass, Dichondra or where desirable clovers are present.
- Do not apply this product through any type of irrigation system
- Avoid drift or spray mist onto vegetables, flowers, ornamental plants, shrubs, trees, and other desirable plants. Do not pour spray solution or rinsate near any desirable plants.
- Do not apply **HardBall**immediately before rainfall or irrigation. Do not water the turfgrass for 24 hours after application.
- Application to Bermuda grass can be during dormancy or when actively growing. Do not apply during periods of semi-dormancy or transition.

ORNAMENTAL AND RECREATIONAL TURFGRASSES, LAWNS, GOLF COURSES (Fairways, Aprons, Tees, and Roughs), PARKS AND CEMETERIES

Do not apply more than 1.5 lbs ae per acre per application. The maximal seasonal application rate is 3.0 lbs ae per acre, excluding spot treatments. The maximum number of broadcast applications per treatment site is 2 per year. For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed for at least 1 hour after application. Avoid contacting desirable trees, shrubs, flowers or vegetables since plant injury may result. Do not apply to newly seeded areas until grass is well established and has been mowed several times. A period of about 30 days after application is usually a sufficient interval before reseeding grasses (or other plants). Seeding a small area and observing response is recommended before large scale seeding.

Cool Season Grasses: To control many emerged broadleaf weeds in cool season turfgrasses such as tall fescue, bluegrass, or perennial ryegrass, apply 1.0 – 1.75 quarts per acre (0.75 - 1.28 fluid ounces per 1,000 square feet). Preferred application timing for broadcast treatment is in the early spring when small weeds have emerged and are actively growing under good moisture conditions. For very weedy turf, a follow-up broadcast or spot application may be needed from 2 to 4 weeks later. Summer applications are typically spot treatments of individual weeds that have emerged after a spring broadcast treatment. In the fall when cooler, wetter conditions favor active weed growth, broadcast application may be appropriate for very weedy turf, such as an area that had no spring broadcast treatment. Do not use on centipede, carpetgrass, St. Augustine, bentgrass or Dichondra turf, or where desirable clovers are present.

Application Rates	**Amount of Product**	**Spray Volume**	
Species	**Oz/1,000 SQ.FT**	**Pints/acre**	**Gallons/Acre**
Cool Season Turf			
Kentucky Bluegrass	.75 to 1.28 oz.	2 to 3.5	20 to 100
Perennial Ryegrass	.75 to 1.28	2 to 3.5	20 to 100
Fescue spp.	.75 to 1.28	2 to 3.5	20 to 100
Creeping Bentrgass	.56 to 1.0	1.5 to 2.25	20 to 100
Warm Season Turf			
Centipede grass	. .75 to 1.28	2 to 3.5	20 to 100
Common Bermudgrass	. .75 to 1.28	2 to 3.5	20 to 100
Hybrid Bermudagrass	. .75 to 1.28	2 to 3.5	20 to 100
Bahiagrass.	. .75 to 1.28	2 to 3.5	20 to 100
Zoysiagrass	.75 to 1.28	2 to 3.5	20 to 100

Precautions and Limitations:

1. Avoid mist to vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants
2. Do not spray on Carpetgrass, Dichondra or where desirable clovers are present
3. The maximum number of broadcast applications is per treatment site is two (2) per year.
4. Maximum of 6.75 pints (1.5 lbs ae) per application
5. Maximum Seasonal rate is 1.72 gallons (3.0 lbs) acre excluding spot treatments.
6. Do not apply to newly seeded areas until well established and preferably after the second mowing.
7. Reduced rates of **HardBall**must be used grass is stressed from heat or drought.
8. Do not apply through any type of irrigation system.
9. Avoid drift, spay mist, or excessive overlapping during application as undesirable injury may occur.
10. Use only lawn type sprayers. Use coarse spray droplets as they are less likely to drift.

Special Note: Care should be taken to avoid over dosing Bentgrass, Bermuda grass, and Centipedegrass or unacceptable injury may occur. Higher volumes of spray water will aid in obtaining uniform coverage if hand-type sprayers are used, it recommended using a single nozzle sprayer than a booms containing multiple nozzles as overspray can occur.

Disclaimer: Always refer to the label on the product before using or any other product.

FOREST MANAGEMENT (INCLUDING SITE PREP, FOREST ROADSIDES, BRUSH CONTROL, ESTABLISHED CONIFER RELEASE)

For the general control of annual, biennial and perennial broadleaf weeds and brush: Apply to emerged weeds and brush. For best results, treat when weeds and brush are young and actively growing. For broadcast applications apply no more than 2.25 gallons (4.0 lbs acid equivalent) per acre per 12 months.

Broadcast application:
Limited to 1 broadcast application per year.
Maximum of 2.25 gallons (4.0 lbs ae/)acre per broadcast application.

Basal spray, Cut Surface – Stumps, and Frill:
Limit of one basal spray or cut surface application per year.
Maximum of 4.5 gallons (8.0 lbs ae) per 100 gallons of spray solution.

Injection:
Limit to one injection application per year.
Maximum of 2 ml of 4.0 lbs ae formulation per injection site.

For specific use-site applications and restrictions see the appropriate site-specific instructions as follows:

Forest Site Preparation
Bud break Spray: For control of alder, susceptible broadleaf weeds, and susceptible woody plants before planting forest seedlings, apply up to 2.0 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as an oil spray (see "Mixing Instructions") after alder buds break, but before foliage is 1/4 full size. A water spray including 2 to 4 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate may also be used.

ANNUAL, BIENNIAL, PERENNIAL BROADLEAF WEEDS AND GENERAL BRUSH CONTROL
Foliage Spray: To control seedlings and susceptible woody plants before planting forest, apply up to 2.0 gallons per acre in a minimum of 10 gallons spray mixture per acre. If desired, apply as a water spray including up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). For best results, apply after alder foliage has reached full size.

TREE AND BRUSH CONTROL (i.e., alder, ash, aspen, birch, black gum, cherry, elm, oak, sweet gum, tulip poplar, willow, and others)

Basal Spray Treatment: Mix 2 - 4 gallons of **HardBall**per 100 gallons of diluent (may contain oil). Apply directly to base and root collar of all stems until the spray begins to accumulate at the ground line. Also wetting stems with this mixture may aid control.

Cut Surface Stumps: Mix 2-4 gallons of **HardBall**per 100 gallons of diluent (may contain oil). Apply as soon as possible after curing trees. Thoroughly soak the entire stump with 2,4-D mixture. Also treat exposed roots and bark.

Frill: Mix 2 - 4 gallons of **HardBall**per 100 gallons of diluent (may contain oil). Make frills with an axe or other tool that can cut overlapping v-shaped notches through the bark in a continuous ring around the base of the tree. Treat freshly cut frills with as much **HardBall**mixture as they will hold.

Injection: Make injections as near to the root collar as possible, using one injection per inch of trunk dbh (4 ½ feet) for resistant species such as hickory. Injections should overlap. For best results, injections should be made during the growing season (May 15th through October 15th in many areas). The injection bit must penetrate the bark. Apply 2-4 ml of **HardBall**per injection site.

Conifer Release: To control alder, susceptible broadleaf weeds, and susceptible woody plants in young conifer stands, apply up to 1 gallon per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray when 3/4 of the brush foliage has full size leaves and before new conifer growth reaches 2 inches in length. Such stages usually occur between early May and mid-June, but application timing should be based on growth stages of brush and conifers. Application may cause leader deformation and other conifer injury, but trees should overcome it during the next growing season.

To control tanoak, madrone, ceanothus, canyon live oak, and manzanita, and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray including, if desired, up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). Make application before new growth on Douglas fir is 2 inches long. To release ponderosa pine from the same species, treat before new pine growth begins in the spring. Addition of oil or oil concentrate may cause unacceptable injury to pines. For dormant applications in late winter or early spring for control of susceptible woody species such as alder, willow, poplars, cherry, vine maple, ceanothus, tanoak, madrone, and manzanita, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. This dormant treatment should be applied in diesel oil, fuel oil, stove oil, or other suitable diluent such as water plus crop oil concentrate (see "Mixing Instructions"). Do not use in plantations where pine and larch are among the desired crop species.

To control hazel brush in the Lake states, apply up to 1.0 gallon per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray when new shoot growth of hazel is complete (usually mid-July).

After conifer species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir crease growth and harden off and brush is still actively growing in late summer, apply up to 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray to control certain competing hardwoods such as alder, aspen, birch, hazel and willow. However, if possible injury cannot be tolerated, do not use since this treatment may cause conifer injury.

Forest Roadsides: To control susceptible broadleaf weeds and woody plants on forest roadsides, apply 0.5 - 1.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray and, if desired, include up to 3 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate (see "Mixing Instructions"). Apply when sufficient foliage is present for absorption.

Established Conifers (including Christmas trees):
Directed Spray or Spot Spray: To control susceptible broadleaf weeds, mix up to 1.0 gallon per 100 gallons of water and apply to emerged weeds in the spring with ground equipment. Avoid contacting conifer foliage with spray or drift as injury may result. For brush, mix 2.0 gallons per 100 gallons of water. Thoroughly spray brush in full foliage, but avoid contacting conifer foliage with spray or drift. Do not apply more than the equivalent of 2.0 gallons per acre.

Over-the-Top Broadcast Application: To control susceptible broadleaf weeds, apply 0.5 gallons per acre in a minimum of 10 gallons spray mixture per acre. To decrease the potential for injury to firs, apply only before bud break in the spring and/or after complete bud set and hardening in the late summer or fall. Avoid treatment during the year of intended harvest.

AQUATIC WEED CONTROL

Notice to Applicators: Before application, coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.
Ground or Surface Application: Do not apply when wind speeds are at or above 10 mph.

Air Application: Do not apply when wind speeds are at or above 5 mph. The restrictions do not apply to subsurface applications used in weed control programs.

DITCH BANK APPLICATION:

RESTRICTIONS AND LIMITATIONS: WEED AND BRUSH ON IRRIGATION CANAL DITCHBANKS

- **Postemergence:**
  - Limited to 2 applications per season.
  - Maximum of 1.15 gallons (2 lb ae) per acre per application.
  - Maximum of 2.25 gallons (4 lb ae) per acre per season
  - Minimum of 30 days between applications.
- **Spot treatment permitted.**
- Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.) Repeat 3 times and use the average to calculate CFS.

Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

- **Note:For ditchbank weeds**:
  - Do not allow boom spray to be directed onto water surface.
  - Do not spray across stream to opposite bank.
- When spraying shoreline weeds, allow no more than 2-foot overspray onto water with an average of less than one-foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

Use power sprayers operated with a boom or spray gun mounted on a boat, tractor, or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 GPA of spray mixture. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For DIRECTASPRA™ operation, use with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions.

FOR AQUATIC WEEDS IN LAKES, PONDS, RESERVOIRS, MARSHES, BAYOUS, DRAINAGE DITCHES, CANALS, AND RIVERS AND STREAMS THAT ARE QUIESCENT OR SLOW MOVING INCUDING PROGRAMS OF THE TENNESSEE VALLEY AUTHORITY: Use 1 - 5 gallons of **HardBall**per acre foot. For best results, apply in spring or early summer. A second treatment may be needed when weeds show signs of recovery, but no later than September in most areas. Spray to wet foliage thoroughly. Application should be made when leaves are fully developed above water line and plants are actively growing. Apply to attain a concentration of 2 to 4 ppm.

EMERGENT AND FLOATING WEEDS

Surface Application: Apply 2.25 gallons per acre in a minimum spray volume of 5 gallons mix per acre.

Air Application: Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 2.5 gallons per acre through standard boom systems with a minimum of 5 gallons of spray mix per acre. For MICROFOIL® drift control spray systems, apply in 12 - 15 gallons spray mix per acre.

- Maximum of 2.25 gallons (4.0 lbs ae)/surface acre per application.
- Limited to 2 applications per season.
- Minimum of 21 days between applications.
- Spot treatments are permitted.

Apply to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving. Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for aquatic applications.

Water Use:

1. Water for irrigation or sprays:

A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.

B. Due to potential phytotoxicity considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses; and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:

i. A setback distance from functional water intake(s) of ≥600 ft. was used for the application, or,

ii. ii. A waiting period of 7 days from the time of application has elapsed, or,

iii. iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.

2. Drinking water (potable water):

A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.

B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is ≥600 ft.

C. If no setback distance of ≥600 ft. is used for the application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for a public water supply or to individual private water users. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of a water use restrictions when this product is applied to potable water.

The following is an example of an example of notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example: Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays). Application Date: _____ Time: _____ .

D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:

i. A setback distance from functional water intake(s) of ≥600 ft. was used for the application, or,

ii. ii. A waiting period of at least 7 days from the time of application has elapsed, or,

iii. iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.

E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to municipal water system or a potable water well, are not considered to be functioning potable water intakes.

F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

3. Swimming:

A. Do not swim in treated water for a minimum of 24 hours after application.

B. Users must provide the following notification prior to performing a 2,4-D BEE application. Notification to the party responsible for the public swimming area or to individual private users must be done in a manner to assure that the party is aware of the swimming restrictions when this product is applied to water. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points.

Text of Notification: Do not swim in treated water for a minimum of 24 hours after application. Application Date: _____ Time: _____ .

4. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

SUBMERGED AQUATIC WEEDS

Subsurface Application: Apply 2.5 – 6.2 gallons per acre foot as a concentrate directly into the water through boat mounted distribution systems.

Maximum of 10.8 lbs ae/per acre-foot per application.
Limited to 2 applications per season.
Apply to aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving.
Do not apply within 21 days of previous application.
When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream from the application.
Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

Table 1. Amount of 2,4-D to Apply for a Target Subsurface Concentration

Surface Area	Average Depth	For typical conditions – 2 ppm 2,4-D ae/acre-foot	For difficult conditions* - 4ppm 2,4-D ae/acre
	1 ft.	5.4 lbs	10.8 lbs

1 acre	2 ft.	10.8 lbs	21.6 lbs
	3 ft.	16.2 lbs	32.4 lbs
	4 ft.	21.6 lbs	43.2 lbs
	5 ft.	27.0 lbs	54.0 lbs
*Examples include spot treatment of pioneer colonies of Eurasian Water Milfoil and certain difficult to control aquatic species.			

Water Use: 1.
Water for irrigation or sprays:
A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.

B. Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable:
If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, non-crop areas or other plants not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:

- **i.** A setback distance described in the Drinking Water Setback Table was used for the application, or,
- **ii.** ii. A waiting period of 21 days from the time of application has elapsed, or,
- **iii.** iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. See Table 3 for the waiting period after application but before taking the initial sampling at water intake.

2. Drinking water (potable water):
A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits.

The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.

B. For submersed weed applications, the drinking water setback distances from functioning potable water intakes are provided in Table 2 Drinking Water Setback Distance (below).

C. If no setback distance from the Drinking Water Setback Table (Table 2) is to be used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water. The following is an example of an example of notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:
Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting should include the day and time of application. Posting may be removed if analysis of a sample collected at the intake no sooner than stated in Table 3 (below) shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.

Text of notification: Wait 21 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested no sooner than (insert days from Table 3) and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays). Application Date: _____ Time: _____ .

D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:

- **i.** A setback distance described in the Drinking Water Setback Distance Table was used for the application, or,
- **ii.** ii. A waiting period of at least 21 days from the time of application has elapsed, or,
- **iii.** iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than stated in Table 3. Analysis of samples must be completed by a laboratory that is certified under The Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.

E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.

F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

3. Swimming (2,4-D butoxyethanol ester only):
A. Do not swim in treated water for a minimum of 24 hours after application.

B. Users must provide the following notification prior to performing a 2,4-D BEE application. Notification to the party responsible for the public swimming area or to individual private users must be done in a manner to assure that the party is aware of the swimming restrictions when this product is applied to water. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:
Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points.

Text of Notification: Do not swim in treated water for a minimum of 24 hours after application. Application Date: _____ Time: _____ .
4. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

Table 2. Drinking Water Setback Distance for Submersed Weed Applications			
Application Rate and Minimum Setback Distance (feet) from Functioning Potable Water Intake			
1 ppm*	2ppm*	3ppm*	4ppm*
600	1200	1800	2400
*ppm acid equivalent target water concentration			

Table 3. Sampling for Drinking Water Analysis After 2,4-D Application for Submersed

Weed Applications			
Minimum Days After Application Before Initial Water Sampling at the Functioning Potable Water Intake			
1 ppm*	2ppm*	3ppm*	4ppm*
5	10	10	14
*ppm acid equivalent target water concentration			

WATER HYACINTH (***Eichornia crassipe***): For control of actively growing plants with surface and air applications, use 4 - 8 pints per acre. **Spray the weed mass only.** Use 8 pints when plants are matured or when the weed mass is dense.

WATER MILFOIL (***Myriophyllum spicatum***): For Eurasian Water Milfoil in programs conducted by the Tennessee Valley Authority (TVA) in dams and reservoirs of the TVA system, **HardBall**will control Water Milfoil with surface, subsurface and air applications.

To control water milfoil when less than 5 gallons of concentrate per acre is recommended, dilute the concentrate with water to apply a minimum of 5 gallons of spray mix per acre. Do not treat within ½ mile of potable water intakes. Shoreline areas should be treated by sub-surface injection applied by boat to avoid aerial drift. Do not apply when weather conditions favor drift from target area.

Restrictions and Limitations for Aquatic Use:
Do not exceed 4.0 lbs acid equivalent per surface acre per application. Do not reapply less than 3 weeks after prior application. Do not apply within 1,500 feet of active potable water intakes.

Fish breathe dissolved oxygen in the water and a water/oxygen ratio must be maintained. Decaying weeds use up oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply **HardBall** in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Waters having limited and less dense weed infestations may not require partial treatments. Other local factors such as water exchange and sediment load can also influence the dissolved oxygen level.
To avoid fish kill from decaying plant material, do not treat more than one-half the lake or pond at one time. For large bodies of weed infested waters, leave buffer strips of at least 100 feet wide and delay treatment of these strips for 4 to 5 weeks or until the dead vegetation has decomposed.

Water Use Instructions:
Unless an approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less, or only growing crops and non-crop areas labeled for direct treatment with 2,4-D will be effected, do not use water from treated areas for:

1. Irrigating plants (especially cotton, grapes, and tomatoes).
2. Mixing sprays for agricultural or ornamental plants.

Unless an approved assay indicates the 2,4-D concentration is 70 ppb (0.07 ppm) or less, do not use water from treated areas for potable water (drinking water).

Except as stated above, there are no restrictions on using water from treated areas for fishing, watering livestock or domestic purposes.

CONDITIONS OF SALE - LIMITED WARRANTY
AND LIMITATIONS OF LIABILITY AND REMEDIES

SPECIMEN LABEL

Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind; express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Chemical Company's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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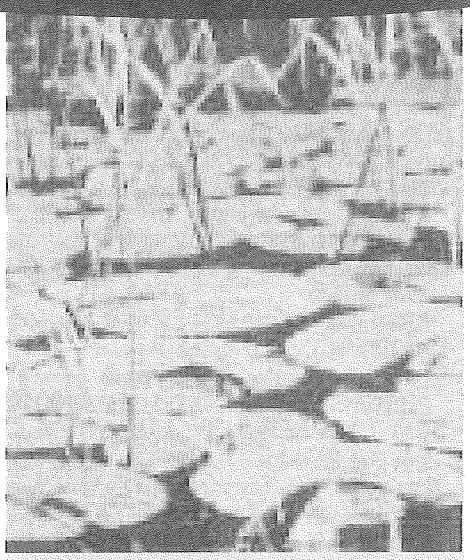
SPECIMEN LABEL

Navigate®

A SELECTIVE HERBICIDE
FOR CONTROLLING CERTAIN UNWANTED AQUATIC PLANTS



EPA Reg. No. 228-378-8959
EPA Est. No. 228-IL-1

ACTIVE INGREDIENT:
Butoxyethyl ester, 2,4-Dichloro-phenoxyacetic acid.....27.6%
INERT INGREDIENTS:.....72.4%
TOTAL.....100.0%

*Isomer specific by AOAC Method, Equivalent to 2,4-Dichlorophenoxyacetic Acid 19%

GENERAL INFORMATION

Navigate® is formulated on special heat treated attaclay granules that resist rapid decomposition in water, sink quickly to lake or pond bottoms and release the weed killing chemical in the critical root zone area. This product is designed to selectively control the weeds listed on the label. While certain other weeds may be suppressed, control may be incomplete. Reduced control may occur in lakes where water replacement comes from bottom springs.

WHEN TO APPLY

For best results, spread Navigate in the spring and early summer, during the time weeds start to grow. If desired, this timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before. If treatments are delayed until weeds form a dense mat or reach the surface, two treatments may be necessary. Make the second treatment when weeds show signs of recovery. Treatments made after September may be less effective depending upon water temperatures and weed growth. Occasionally, a second application will be necessary if heavy regrowth occurs or weeds reinfest from untreated areas.

HOW TO APPLY

FOR LARGE AREAS: Use a fertilizer spreader or mechanical seeder such as the Gerber or Gandy or other equipment capable of uniformly applying this product. Before spreading any chemical, calibrate your method of application to be sure of spreading the proper amount. When using boats and power equipment, you must determine the proper combination of (1) boat speed (2) rate of delivery from the spreader, and (3) width of swath covered by the granules.

FOR SMALL AREAS: (Around Docks or Isolated Patches of Weeds): Use a portable spreader such as the Cyclone seeder or other equipment capable of uniformly applying this product. Estimate or measure out the area you want to treat. Weight out the amount of material needed and spread this uniformly over the area. More uniform coverage is obtained by dividing the required amount in two and covering the area twice, applying the second half at right angles to the first.

Use the following formula to calibrate your spreader's delivery in pounds of Navigate per minute:

$$\frac{\text{Miles per hour x spreader width x pounds per acre}}{495} = \text{pounds per minute}$$

Example: To apply 100 pounds of Navigate per acre using a spreader that covers a 20 foot swath from a boat traveling at 4 miles per hour, set the spreader to deliver 16 pounds of Navigate granules per minute.

$$\frac{4 \text{ mph x } 20 \text{ feet x } 100 \text{ Lbs./A}}{495} = 16 \text{ Lbs./Min.}$$

AMOUNTS TO USE

Rates of application vary with resistance of weed species to the chemical, density of weed mass at time of treatment, stage of growth, water depth, and rate of water flow through the treated area. Use the higher rate for dense weeds, when water is more than 8 feet deep and where there is a large volume turnover.

	NAVIGATE POUNDS PER ACRE	NAVIGATE POUNDS PER 2000 SQ. FT.
SUSCEPTIBLE WEEDS Water Milfoil (Myriophyllum spp.) Water stargrass (Herteranthera dubia)	100 to 200	5
SLIGHTLY TO MODERATELY RESISTANT WEEDS Bladderwort (Utriculria spp.) White water Lily (Nymphaea spp.) Yellow water Lily (Nuphar spp.) or spatterdock* Water shield (Brasenia spp.) Water chestnut (Trapa natans) Coontail* (Ceratophyllum demersum)	150 to 200	7½ to 10

*Repeat treatments may be needed.

MANUFACTURED FOR:
applied biochemists
Germantown, WI 53022 • 1-800-558-5106
www.appliedbiochemists.com

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read this entire label before using this product.

GENERAL PRECAUTIONS AND RESTRICTIONS

Do not use in or near a greenhouse.

OXYGEN RATIO: Fish breathe oxygen in the water and a water-oxygen ratio must be maintained. Decaying weeds use up oxygen, but during the period when Navigate should be used, the weed mass is fairly sparse and the weed decomposition rate is slow enough so that the water-oxygen ratio is not disturbed by treating the entire area at one time. If treatments must be applied later in the season when the weed mass is dense and repeat treatments are needed spread granules in lanes, leaving buffer strips which can then be treated when vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment.

Buffer lanes should be 50 to 100 feet wide. Treated lanes should be as wide as the buffer strips. (See illustration below)

WATER pH: Best results are generally obtained if the water to be treated has a pH less than 8. A pH of 8 or higher may reduce weed control. If regrowth occurs within a period of 6 to 8 weeks, a second application may be needed.

PERMIT TO USE CHEMICALS IN WATER: In many states, permits are required to control weeds by chemical means in public water. If permits are required, they may be obtained from the Chief, Fish Division, State Department of Conservation or the State Department of Public Health.

KEEP OUT OF REACH OF CHILDREN

CAUTION

For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident call Chemtrec Day or Night 1-800-424-9300

PRECAUTIONARY STATEMENTS/HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust. When handling this product, wear chemical resistant gloves. Wash thoroughly with soap and water after handling. When mixing, loading, or applying this product or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. Wash hands, face and arms with soap and water as soon as possible after mixing, loading, or applying this product. Wash hands, face and hands with soap and water before eating, smoking or drinking. Wash hands and arms before using toilet. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.

FIRST AID STATEMENT: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. IF ON SKIN OR CLOTHING:Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice. IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

ENVIRONMENTAL HAZARDS: This product is toxic to fish. Drift or runoff may adversely affect fish and non-target plants. Do not apply to water except as specified on this label. Do not contaminate water when disposing of equipment washwaters. Unless an approved assay indicates the 2,4-D concentration is 100 ppb (0.1 ppm) or less, or, only growing crops and non-crop areas labeled for direct treatment with 2,4-D will be affected, do not use water from treated areas for irrigating plants or mixing sprays for agricultural or ornamental plants. Unless an approved assay indicates the 2,4-D concentration is 70 ppb (0.07 ppm) or less, do not use water from treated areas for potable water (drinking water). Clean spreader equipment thoroughly before using it for any other purposes. Vapors from this product may injure susceptible plants.

Most cases of ground water contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of ground water supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent ground water contamination.

STORAGE AND DISPOSAL

STORAGE: Always use original container to store pesticides in a secure warehouse or building. Do not store near seeds, fertilizers, insecticides or fungicides. Do not stack more than two pallets high. Do not contaminate water, food or feed by storage or disposal. It is recommended that a SARA Title III emergency response plan be created for storage facilities. Do not transport in passenger compartment of any vehicle.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, clean up spilled material. Improper disposal of excess pesticide is a violation of Federal law and may contaminate ground water. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If bag is burned, stay away from smoke.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes all risk of any use contrary to such directions. SELLER MAKES NO OTHER WARRANTY EXPRESSED OR IMPLIED AS TO FITNESS OR MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO EXCEPT IN WRITING WITH SPECIFIC REFERENCE TO THIS WARRANTY. In no event shall the Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

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SPECIMEN LABEL

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

Nufarm

Weedar® 64

Broadleaf Herbicide

THE 2,4-D AMINE WEED KILLER

TO CONTROL SUSCEPTIBLE BROADLEAF WEEDS IN CEREAL GRAINS, CORN, SORGHUM, RICE, SUGARCANE, SOYBEANS (Preplant only), TURF, NON-CROP AREAS, AND CERTAIN AQUATIC APPLICATIONS.

ACTIVE INGREDIENT:

2,4-Dichlorophenoxyacetic acid, dimethylamine salt* 46.8%

OTHER INGREDIENTS: 53.2%

TOTAL: 100.0%

*2,4-Dichlorophenoxyacetic acid equivalent 38.9% by weight or 3.8 pounds per gallon. Isomer specific by AOAC method No. 978.05

KEEP OUT OF REACH OF CHILDREN

DANGER / PELIGRO

PRECAUCION AL USUARIO: Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

EPA Reg. No. 71368-1

Manufactured for
Nufarm, Inc.
150 Harvester Drive
Burr Ridge, IL 60527

Nufarm

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER / PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid breathing vapors or spray mist. Do not get in eyes, on skin or on clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, and other handlers must wear:
- long-sleeved shirt and long pants,
- shoes and socks, plus
- chemical-resistant gloves (except for applicators using ground boom equipment),
- chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate, and
- protective eyewear (goggles or face shield).

See engineering controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENTS:
When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE (personal protective equipment) may be reduced or modified as specified in the WPS. Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users Should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact 1-877-325-1840 for emergency medical treatment information.

NOTE TO PHYSICIANS

This product contains a phenoxy herbicidal chemical. There is no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient. Probable mucosal damage may contraindicate the use of gastric lavage. Overexposure to materials other than this product may have occurred.

ENVIRONMENTAL HAZARDS

This product may be toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This product contains a chemical with properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

For Aquatic Uses: Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

Do not contaminate water used for irrigation or domestic purposes (except as specifically recommended on this label) especially in areas where grapes, cotton, tomatoes or other susceptible plants are grown.

Do not treat irrigation ditches in areas where water will be used to overhead (sprinkler) irrigate susceptible crops especially grapes, tomatoes, tobacco, and cotton.

Do not apply this product directly to, or permit to drift onto cotton, okra, grapes, tomatoes, fruit trees, vegetables, flowers or other desirable crop or ornamental plants which are susceptible to 2,4-D herbicide. Do not apply near susceptible plants since very small quantities of the 2,4-D will cause severe injury during the growing or dormant periods. Crops contacted by this product sprays or spray drift may be killed or suffer significant stand loss with extensive quality and yield reduction.

MIXING AND LOADING: Most cases of ground water contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of ground water supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent ground water contamination.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read entire label before using this product.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: coveralls, chemical-resistant gloves made of any water-proof material, shoes plus socks, protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

GENERAL PRECAUTIONS AND RESTRICTIONS

Do not apply this product through any type of irrigation system. Do not use in or near a greenhouse. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

GENERAL INFORMATION

INJURY TO CROPS FROM THIS HERBICIDE MAY OCCUR. IF YOU ARE NOT PREPARED TO ACCEPT SOME DEGREE OF CROP INJURY DO NOT USE THIS PRODUCT.

Crop varieties vary in response to 2,4-D and some are easily injured. Apply this product only to varieties known to be tolerant to 2,4-D. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D, consult your seed company, State Agricultural Extension Service or qualified crop consultant for advice.

Be sure that use of this product conforms to all applicable laws, rules and regulations. Certain states have restrictions pertaining to application distances from susceptible crops. The applicator should become familiar with these laws, rules or regulations and follow them exactly.

MIXING INSTRUCTIONS

Add about one-half the water to the mixing tank, then add this product with agitation and finally the rest of water with continuing agitation.

NOTE: Adding oil, wetting agent, or other surfactants to the spray may increase effectiveness on weeds but also may reduce selectivity to crops, resulting in crop damage.

COMPATIBILITY

If this product is to be tank mixed with fertilizers or with other pesticides, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 quart) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5 to 15 minutes after mixing.

Read and follow all directions and precautions on this label and on the labels of any products for which a tank mixture is being considered.

APPLICATION PROCEDURES

Apply by air or ground equipment in sufficient gallonage to obtain adequate coverage, except as otherwise directed on this label.
Use 2 or more gallons of water per acre for aerial application and 10 or more gallons of water per acre for ground application.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed
Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions
If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants
Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements
Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment
All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications:
The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

Additional requirements for ground boom application:
Do not apply with a nozzle height greater than 4 feet above the crop canopy.

SMALL QUANTITY DILUTION TABLE

To spray small areas use the following dilution table.

If Dosage on Label Shows Following Rate Per Acre	Use this Amount for each Gallon of Water Per 1,000 Square Feet
2 pints (1 quart)	0.72 ounces (4.3 teaspoons)
3 pints (1-1/2 quarts)	1.1 ounces (2 tablespoons)
4 pints (2 quarts)	1.4 ounces (2.8 tablespoons)
6 pints (3 quarts)	2.2 ounces (4.4 tablespoons)

GENERAL WEED LIST

Annual and Biennial Weeds

Beggarticks*	Mallow* (venice or little)	Russian thistle*
Bullthistle	MarshelderMorningglory	Salsify (western or common)
Coffeeweed	(common, ivy, woolly)	Smartweeds* (annual species)
Common cocklebur	Musk thistle* (***)	Sowthistles (annual or spiny
Common burdock	Mustards (except blue mustard)	Sunflower
Common evening primrose	Pepper weeds (except perennial)	Vervains*
Common lambsquarters	Pigweeds** (Amaranthus spp.)	Vetches
Hairy galinsoga	Prickly lettuce	Wild carrot
Jimsonweed	Ragweed (common or giant)	Wild lettuce
Knotweed*	Rough fleabane	Wild parsnips

Perennial Weeds

Bindweed* (hedge, field, European)	Goldenrod*	Orange hawkweed*
Blue lettuce	Healall	Plantains
Canada thistle*	Ground ivy*	Sowthistle (perennial)
Catnip	Hoary cress*	Vervains*
Chicory	Ironweed*	Wild garlic*
Dandelion	Jerusalem artichoke	Wild onion*
Docks*	Many flowered aster	
Dogbane*	Nettles* (including stinging)	

*These species may require repeated applications and/or use of the higher rate recommended on this product label even under ideal conditions for application.

**Control of pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

***Not registered for control of musk thistle in California.

SPECIFIC USE DIRECTIONS

APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS

WEEDS IN CROPS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds	3 pints	For control of weeds on the orchard floor, apply using coarse sprays and low pressure in sufficient volume of water to obtain thorough wetting of weeds. Treat when weeds are small and actively growing. For filberts, apply a maximum of 2.1 pints (1.0 lb. ae) per 100 gallons of spray solution per application. Do not use on light sandy soil. **DO NOT USE IN CALIFORNIA.**

RESTRICTIONS AND LIMITATIONS FOR USE IN APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS

- Do not apply to bare ground as injury may result.
- Do not apply immediately before irrigation and withhold irrigation for 2 days before and for 3 days after treatment.
- Do not allow spray to drift onto or contact foliage, fruit, stems, trunks of trees or exposed roots as injury may result.
- Do not apply to newly established or young orchards. Trees must be at least 1 year old and in vigorous condition.
- Do not apply during bloom.
- Do not graze or feed cover crops from treated orchards.
- Do not make more than 2 applications per crop cycle. Maximum of 4.2 pints (2.0 lbs. ae) per acre per application.
- Do not harvest apples and pears within 14 days of application, stone fruit within 40 days of application and nuts within 60 days of application.
- For apples, pears and stone fruits, allow at least 75 days between applications.
- For tree nuts, allow at least 30 days between applications.
- Do not cut orchard floor forage for hay within 7 days of application.

CEREAL GRAINS

Barley, Oats, Rye, Triticale, Wheat

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Not underseeded with legumes **Postemergence** Annual and biennial broadleaf weeds Perennial broadleaf weeds	 1/2 to 2 pints* 1 to 2 pints*	Apply after grain is well tillered (usually about 4 to 8 inches high). **Do not spray grain in the boot to dough stage.**
Underseeded with legumes	1/4 to 1/2 pint*	Apply after grain is 8 inches tall. **Do not spray grain in boot to dough stage.** Do not spray alfalfa or sweet clover unless the infestation is severe and injury to these legumes can be tolerated.
Emergency weed control in Triticale, Wheat Perennial broadleaf weeds	2.6 pints	Apply when weeds are approaching bud stage, after the grain dough stage. **Do not spray during the boot to dough stage.** The 2.6 pints per acre application can produce injury to wheat. Balance the severity of your weed problem against the possibility of crop damage. Where perennial weeds are scattered, spot treatment is suggested to minimize the extent of crop injury.

*Use the lower rate if small annual and biennial weeds are the major problem. Use the higher rate if perennial weeds or annual and biennial weeds are present which are in the hard-to-kill categories as determined by local experience. The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the grain damage risk. Do not apply this product to grain in the seedling stage.

RESTRICTIONS AND LIMITATIONS FOR USE ON CEREAL GRAINS

- For aerial application on grain, apply this product in 3 to 10 gallons of water per acre.
- For ground application a minimum of 10 to 15 gallons of water per acre is recommended for proper spray coverage.
- Do not permit dairy animals or meat animals being finished for slaughter to forage treated grain fields within 2 weeks after treatment.
- Do not feed treated straw to livestock if an emergency treatment as described above is applied.
- Do not harvest within 14 days of application.
- Limit to one postemergence application per crop cycle.
- Limit to one preharvest application per crop cycle.
- **Postemergence:** Maximum of 2.6 pints (1.25 lbs. ae) per acre per application.
- **Preharvest:** Maximum of 1 pint (0.5 lb. ae) per acre per application.
- Limit to 3.6 pints product (1.75 lbs. ae) per acre per crop cycle.

CORN AND SORGHUM

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
CORN (Field and Sweet) **Preplant**	1 to 2 pints	To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for less susceptible weeds or cover crops such as alfalfa.
Preemergence	2 pints	Apply 3 to 5 days after planting but before corn emerges. Do not use on light, sandy soils or where soil moisture is low.
Postemergence Annual broadleaf weeds Perennial broadleaf weeds	1/2 to 1 pint 1 pint	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). When corn is over 8 inches tall, use drop nozzles and keep spray off foliage. Treat perennial weeds when they are in the bud to bloom stage. **Do not spray corn in the tassel to dough stage.** Corn treated with 2,4-D may become temporarily brittle. Winds or cultivation may cause stalk breakage during the period of time when the corn is brittle.
Grain Sorghum (Milo) Postemergence	1 pint	Apply when sorghum is 6 to 15 inches tall. If sorghum is taller than 8 inches to top of the canopy, use drop nozzles and keep spray off the foliage. **Do not treat during the boot, flowering or dough stage.**

RESTRICTIONS AND LIMITATIONS FOR USE ON CORN AND SORGHUM
- Do not forage or feed fodder for 7 days following application.
- Do not harvest within 7 days of application.
- Limit to one preplant, postemergence or preharvest application per crop cycle.
- **Preplant or Preemergence:** Maximum of 2 pints (1.0 lb. ae) per acre per application.
- **Postemergence:** Maximum of 1 pint (0.5 lb. ae) per acre per application.
- **Preharvest:** Maximum of 3 pints (1.5 lbs. ae) per acre per application.
- Maximum of 6 pints (3.0 lbs. ae) per acre per crop cycle.
- Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application.
- The preharvest interval (PHI) for sorghum is 30 days.

HOPS (Except CA)

WEEDS IN CROPS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds	1 pint	Make directed applications to the row middles. Make up to 3 applications at 30-day intervals with the last application before harvest.

RESTRICTIONS AND LIMITATIONS FOR HOPS
- Limited to 3 applications per crop cycle.
- Maximum of 1 pint (0.5 lb. ae) per acre per application.
- Maximum of 3 pints (1.5 lbs. ae) per acre per crop cycle.
- Minimum of 30 days between applications.
- Observe the preharvest interval (PHI) of 28 days.

RICE

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Preplant	1 to 2 pints	Apply four or more weeks prior to planting rice. **DO NOT USE IN CALIFORNIA.**
Postemergence	1 to 2-1/2 pints	Apply when rice is in the late tillering stage of development at the time of first joint development. Do not apply after panicle initiation, after rice internodes exceed one-half inch, at early seedling, early panicle, boot or heading stages. Consult local university or Agricultural Extension Service specialists for more specific information on rates and timing of application. **DO NOT USE IN CALIFORNIA.**

RESTRICTIONS AND LIMITATIONS FOR USE IN RICE
- Do not apply more than a total of 2-1/2 pints per acre of this product to rice per growing season.
- Do not use on rice in California without an approved Supplemental Label allowing the use.
- Observe the preharvest interval (PHI) of 60 days.
- **Preplant:** Limited to 1 preplant application per crop cycle. Maximum of 2 pints (1.0 lb. ae) per acre per preplant application.
- **Postemergence:** Limited to 1 postemergence application per crop cycle. Maximum of 3 pints (1.5 lbs. ae) per acre per postemergence application.

WILD RICE (For Use In Minnesota Only)

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Common waterplantain	1/2 pint	Broadcast in 4 to 10 gallons total spray volume. Apply after waterplantain has emerged from the water and when wild rice is in the 1 to 2 aerial leaf to early tillering stage. Do not spray after wild rice has reached the boot stage.

RESTRICTIONS AND LIMITATIONS FOR USE IN WILD RICE
- For use only on wild rice grown in commercial paddies.
- Do not apply to wild rice growing in lakes, rivers or streams.
- Water that is drained out of wild rice paddies is not to be used to irrigate other crops. In order to protect federally listed endangered or threatened species, the Minnesota Department of Agriculture has a program to pre-notify landowners where pesticide applications may affect federally listed endangered or threatened species.
- Limited to 1 application per crop cycle.
- Do not apply more than 1/2 pint per acre of 2,4-D Amine 4 (0.25 lb. ae/A) per use season.
- Observe the preharvest interval (PHI) of 60 days.

SOYBEANS* (Preplant Only)

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Postemergence	3/4 to 1 pint	Apply not less than 15 days prior to planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present.
	>1 to 2 pints	Apply not less than 30 days prior to planting soybeans, when weeds are actively growing.

In addition to those weeds found on the GENERAL WEED LIST, this product will suppress or control the following broadleaf weeds frequently encountered in reduced tillage soybean production systems: alfalfa*, bullnettle, smallflowered bittercress, Carolina geranium, smallflowered buttercup, common and rough cinquefoil, red clover*, horseweed or marestail, mousetail, wild mustard, field pennycress, cutleaf evening primrose, common purslane, speedwell, velvetleaf, and Virginia copperleaf. * These weeds are only partially controlled.

Apply no more than 2.0 pints of this product in one season prior to planting soybeans. After applying, plant soybean seed as deep as practical or at least 1-1/2 to 2 inches deep. Adjust the planter press wheel, if necessary, to ensure that planted seed is completely covered.

If desired, this product may be applied pre-plant to soybeans in tank mixtures with other herbicides such as Poast®, Poast Plus®, Roundup®, Roundup D-Pak®, Honcho®, Gramoxone Extra®, Prowl®, Pursuit Plus®, Scepter®, Scepter 70 DG, Squadron® and others that are registered for pre-plant soybean use.

NOTE: Unacceptable injury to soybeans planted in fields previously treated with this product may occur and the extent of injury will depend on weather and agronomic factors such as the amount of weed vegetation and previous crop residue present that may be in effect between the time of application and the emergence of the soybean plant.

RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS (PREPLANT)
- Do not apply this product when weather conditions such as temperature, air inversions, or wind favor drift from treated areas to susceptible plants.
- Apply no more than 2.0 pints of this product per acre in one season prior to planting soybeans.
- Only one application per growing season, regardless of the application rate used, is allowed.
- Do not apply this product prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.
- Do not replant fields treated with this product in the same growing season with crops other than those labeled for 2,4-D pre-plant use.
- Do not mow or cultivate weeds prior to treating with this product as poor control may result.
- Do not cut for feed treated hay, forage, or fodder or graze treated soybeans to livestock.
- Do not apply this product pre-plant to soybeans in fields having a coarse-textured soil where the percent organic matter is <1.0%.
- Only one application of this product may be made prior to planting soybeans per growing season.
- Do not feed treated hay, forage, or fodder. Livestock should be restricted from feeding/grazing of treated cover crops.

***Not currently registered for use in California.**

SUGARCANE

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Preemergence	4 pints	Apply before canes appear for control of emerged broadleaf weeds. **DO NOT USE IN CALIFORNIA.**
Postemergence	1-1/2 to 4 pints	Apply after cane emerges and through lay-by. **DO NOT USE IN CALIFORNIA.**

RESTRICTIONS AND LIMITATIONS FOR USE IN SUGARCANE
- Do not apply more than a total of 8 pints of this product to sugarcane per acre per growing season.
- Do not harvest cane prior to crop maturity.
- **Preemergence:** Limited to 1 application per crop cycle. Maximum of 4 pints (2.0 lb. ae) per acre per application.
- **Postemergence:** Limited to 1 application per crop cycle. Maximum of 4 pints (2.0 lb. ae) per acre per application.

CONSERVATION RESERVE PROGRAM AREAS

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds In young grasses In established grasses	 1/2 to 1 pint 1/2 to 2 pints	Apply to actively growing annual broadleaf weeds. Use 1/2 to 1 pint when weeds are small; use higher rates on older weeds. Do not apply to young grasses with fewer than 6 leaves or prior to tillering, as excessive injury may result. Do not apply more than 1 pint until grasses are well established as excessive injury may result.
Biennial and perennial broadleaf weeds In established grasses	2 to 4 pints	Treat when biennial weeds are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage. Apply to actively growing weeds.

RESTRICTIONS AND LIMITATIONS FOR USE ON CONSERVATION RESERVE PROGRAM AREAS

- Use at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground.
- Do not harvest or graze treated Conservation Reserve Program areas.
- Do not apply to grasses in the boot to dough stage if grass seed production is desired.
- Do not cut forage for hay within 7 days of application.
- **Postemergence:**
  - For susceptible annual and biennial broadleaf weeds, do not exceed 2 pints (1.0 lb. ae) per acre per application.
  - For moderately susceptible biennial and perennial broadleaf weeds and for difficult to control weeds and woody plants, do not exceed 4 pints (2.0 lbs. ae) per acre per application.
  - Spot treatments do not exceed 4 pints (2.0 lbs. ae) per acre.
  - Maximum of 2 applications per year.
  - Maximum of 8 pints (4.0 lbs. ae) per acre per year.
  - Minimum of 30 days between applications.
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.
- For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

ESTABLISHED GRASS PASTURES, RANGELAND AND CONSERVATION RESERVE PROGRAM AREAS

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds **Biennial and perennial broadleaf weeds**	2 pints 2 to 4 pints	Apply when weeds are small and actively growing and prior to bud stage. Spray while musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks become apparent. The lower rate can be used in the spring during rosette stage. Use the highest rate in the fall or after flower stalks have developed. Do not apply to newly seeded areas until grass is well established. Do not apply to grass in the early boot through milk stage if grass seed production is desired. Bentgrass and legumes may be injured by this treatment.

RESTRICTIONS AND LIMITATIONS FOR USE ON ESTABLISHED GRASS PASTURES, RANGELAND AND CONSERVATION RESERVE PROGRAM AREAS

- Do not cut forage for hay within 7 days of application.
- **Postemergence:**
  - For susceptible annual and biennial broadleaf weeds, do not exceed 2 pints (1.0 lb. ae) per acre per application.
  - For moderately susceptible biennial and perennial broadleaf weeds and for difficult to control weeds and woody plants, do not exceed 4 pints (2.0 lbs. ae) per acre per application.
  - Spot treatments do not exceed 4 pints (2.0 lbs. ae) per acre.
  - Maximum of 2 applications per year.
  - Maximum of 8 pints (4.0 lbs. ae) per acre per year.
  - Minimum of 30 days between applications.
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.
- For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

GRASS CUT FOR HAY

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds **Biennial and perennial broadleaf weeds**	2 pints 2 to 4 pints	Apply when weeds are small and actively growing and prior to bud stage. Spray while musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks become apparent. The lower rate can be used in the spring during rosette stage. Use the highest rate in the fall or after flower stalks have developed. Do not apply to newly seeded areas until grass is well established. Do not apply to grass in the early boot through milk stage if grass seed production is desired. Bentgrass and legumes may be injured by this treatment.

RESTRICTIONS AND LIMITATIONS FOR USE IN PASTURES, RANGELANDS AND GRASS CUT FOR HAY
- Do not graze (dairy) cattle in treated areas for 7 days after application.
- Do not cut forage for hay within 30 days of application.
- Do not permit dairy animals or meat animals being finished for slaughter to forage treated fields within 3 days of slaughter.
- **Postemergence:**
  - For susceptible annual and biennial broadleaf weeds: Use 2 pints (1.0 lb. ae) per acre per application.
  - For moderately susceptible biennial and perennial broadleaf weeds: Use 2 to 4 pints (1.0 to 2.0 lbs. ae) per acre per application.
  - For difficult to control weeds and woody plants: Use 4 pints (2.0 lbs. ae) per acre per application.
  - Spot treatment: Use 4 pints (2.0 lbs. ae) per acre.
  - Maximum of 2 applications per year.
  - Maximum of 8 pints (4.0 lbs. ae) per acre per year.
  - Minimum of 30 days between applications.
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

FALLOWLAND AND CROP STUBBLE

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds	1 to 2 pints	Use the lower rate when weeds are small (2 to 3 inches tall) and actively growing. Use the higher rate on older and drought-stressed plants.
Biennial broadleaf weeds	2 to 4 pints	Spray when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks become apparent. The lower rate can be used in the spring during rosette stage. Use the highest rate in the fall or after flower stalks have developed.
Perennial broadleaf weeds	2 to 4 pints	Spray weed in the bud to bloom stage or while in good vegetative growth. Do not disturb treated areas for at least 2 weeks after treatment, or until tops are dead.
Wild garlic and onion in crop stubble	4 pints	Apply to new regrowth of wild garlic or onion which occurs in the fall following harvest of small grains, corn or grain sorghum.

RESTRICTIONS AND LIMITATIONS FOR USE IN FALLOWLAND AND CROP STUBBLE
- Limit to two applications per year.
- Maximum of 4 pints (2.0 lbs. ae) per acre per application.
- Plant only labeled crops within 29 days following application.
- Minimum of 30 days between applications.

GRASSES FOR SEED PRODUCTION

WEEDS IN CROP	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual and perennial broadleaf weeds	2 to 4 pints	Apply to established stands in spring from tiller to early boot stage. **Do not spray in boot stage.** New spring seedings may be treated with the lower rate after grass seedlings have at least 5 leaves. Perennial weed regrowth may be treated in the fall.

RESTRICTIONS AND LIMITATIONS FOR USE ON GRASSES FOR SEED PRODUCTION
- Do not graze dairy animals or cut forage for hay within 7 days of application.
- Maximum of 4 pints (2.0 lbs. ae) per acre per application.
- Limited to 2 applications per year.
- Minimum of 21 days between applications.

NON-CROPLAND

Such as Fencerows, Hedgerows, Roadsides, Drainage Ditches, Rights-of-Way, Utility Power Lines, Railroads and Other Non-Crop Areas

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 to 4 pints	Treat when weeds are young and actively growing. Perennial weeds should be near the bud stage, but not flowering at application. Do not use on susceptible southern grasses such as St. Augustine. Do not apply to newly seeded areas until grass is well established. Bentgrass, clover, legumes and dichondra may be injured by this treatment.
Biennial and perennial broadleaf weeds	4 pints	

RESTRICTIONS AND LIMITATIONS FOR USE ON NON-CROPLAND
- Maximum of 4 pints (2.0 lbs. ae) per acre per application.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.
- Limit 2 applications per year.
- Minimum 30 days between applications.

SPOT TREATMENT IN NON-CROP AREAS

Mix 2 to 3 fluid ounces of this product in 3 gallons of water. Wet all weeds and stems thoroughly. For best results, treat when weeds are actively growing.

ORNAMENTAL TURF AREAS

Golf Courses, Cemeteries, Parks, Turfgrass, and Other Grass Areas

WEEDS	AMOUNT OF WEEDAR® 64 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 to 3 pints	Treat when weeds are young and actively growing. Perennial weeds should be near the bud stage, but not flowering at application. Do not use on susceptible southern grasses such as St. Augustine. Do not apply to newly seeded area until grass is well established. Bentgrass, clover, legumes and dichondra may be injured by this treatment.
Biennial and perennial broadleaf weeds	3 pints	

RESTRICTIONS AND LIMITATIONS FOR USE ON ORNAMENTAL TURF AREAS
- Use sufficient gallonage for thorough and uniform coverage.
- Do not apply more than 2 broadcast applications per year per treatment site. This does not exclude spot treatments.
- Do not allow people (other than applicator) or pets on treatment area during application.
- Do not enter treatment areas until sprays have dried.
- Maximum of 3 pints (1.5 lbs. ae) per acre per application.
- Maximum of 6 pints (3.0 lbs. ae) per acre per year, excluding spot treatments.

POPLAR/COTTONWOOD TREES GROWN FOR PULP BROADLEAF WEED CONTROL

This product may be applied through wick applicators or conventional ground sprayers. (Excluding irrigation systems) Do not allow this product to contact leaves or green bark of the tree. Use 1/2 pint to 3 pints per acre in enough water to provide uniform coverage prior to or after planting of Poplar/Cottonwood trees. Application during warm weather is preferred. Apply when weeds are actively growing, preferably before bud stage. Repeat treatment may be necessary for less susceptible weeds; re-apply as needed. Accord® may be mixed with this product to increase weed control. Follow both labels to determine correct rates. Two quarts or more of a spreader - activator per 100 gallons of spray solution may be added to improve herbicide performance.

RESTRICTIONS AND LIMITATIONS FOR USE ON POPLAR/COTTONWOOD TREES GROWN FOR PULP BROADLEAF WEED CONTROL
- Limited to 1 broadcast application per year. Maximum of 8 pints (4.0 lbs. ae) per acre per broadcast application.

FORESTRY - TREE INJECTION

For Controlling Species Such as Alder, Aspen, Birch, Blackgum, Cherry, Oak, Sweetgum, and Tulip Poplar

Make injections as near to the root collar as possible, using one injection per inch of trunk dbh (4-1/2 feet). For resistant species such as hickory, injections should overlap. For best results, injections should be made during the growing season, May 15th through October 15th.

For Dilute Injection

Mix 1 gallon of product in 19 gallons of water for dilute injections.

For Concentrate Injections

Use 1 to 2 ml of concentrate WEEDAR® 64 per injection. The injection bit must penetrate the inner bark.

RESTRICTIONS AND LIMITATIONS FOR USE ON FORESTRY - TREE INJECTION
- Limited to 1 injection application per year. Maximum of 2 ml of 4.0 lbs. ae formulation per injection site.

WEEDS AND BRUSH ON IRRIGATION CANAL DITCHBANKS

(Seventeen Western States: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming)

For Control of Annual and Perennial Broadleaf Weeds

Apply 1 to 2 quarts of this product per acre in approximately 20 to 100 gallons per acre. Treat when weeds are young and actively growing before the bud or early bloom stage. For harder-to-control weeds, a repeat spray after 3 to 4 weeks using the same rates may be needed for maximum results. Apply no more than two treatments per season.

For Woody Brush and Patches of Perennial Broadleaf Weeds

Mix 1/2 gallon of product in 150 gallons of water. Wet foliage thoroughly using about 1 gallon of solution per square rod.

Spraying Instructions

Apply with low pressure (10 to 40 psi) power spray equipment mounted on a truck, tractor, or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water. Spray when the air is fairly calm, 5 mph or less. Do not use on small canals (less than 10 cfs) where water will be used for drinking purposes.

Boom spraying onto water surface must be held to a minimum and no cross-stream spraying to opposite banks should be permitted. When spraying shoreline weeds, allow no more than 2 foot overspray onto water with an average of less than 1 foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

RESTRICTIONS AND LIMITATIONS FOR USE ON IRRIGATION CANAL DITCHBANKS

- Do not allow dairy animals to graze on treated areas for at least 7 days after spraying.
- Water within treated banks should not be fished.
- **Postemergence:** Limited to 2 applications per season. Maximum of 4 pints (2.0 lbs. ae) per acre per application. Minimum of 30 days between applications. Spot treatment permitted.

Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance.

Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.). Repeat 3 times and use the average to calculate CFS.

Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

For ditchbank weeds:

- Do not allow boom spray to be directed onto water surface.
- Do not spray across stream to opposite bank.

For shoreline weeds:

- Allow no more than 2 foot overspray onto water.

AQUATIC WEED CONTROL

For Use in Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Non-Irrigation Canals, Rivers and Streams that are Quiescent or Slow Moving.

NOTICE TO APPLICATORS

State and Local Coordination

Before application, coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

Wind Velocity - Ground or Surface Application: Do not apply when wind speeds are at or above 10 mph. **Air Application:** Do not apply when wind speeds are at or above 5 mph. The restrictions do not apply to subsurface applications used in weed control programs.

WATER HYACINTH (*Eichornia crasipe*) - Directions For Use

This product will control water hyacinth with surface and air applications.

Amounts to Use: 2 to 4 quarts (4 lb. acid equivalent per gallon) per acre. **Spray the weed mass only.** Use 4 quarts when plants are matured or when the weed mass is dense.

When To Apply: Spray when water hyacinth plants are actively growing. Repeat as necessary to kill regrowth and hyacinth plants missed in the previous operation.

How To Use - Surface Application: Use power sprayers operated with a boom or spray gun mounted on a boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gal. per acre of spray mixture. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For DIRECTA-SPRA™ operation use this product with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions.

Air Application: Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 1.0 gallon per acre of this product through standard boom systems with a minimum of 5 gallons of spray mix per acre. For MICROFOIL® drift control spray systems, apply this product in 12 to 15 gallons spray mix per acre.

2,4-D Acid Equivalent	1/2 pound	1 pound	2 pounds	3 pounds	4 pounds
WEEDAR® 64	1 pint	2 pints	2 quarts	3 quarts	4 quarts

RESTRICTIONS

FLOATING AND EMERGENT WEEDS:

- Maximum of 8 pints per surface acre per application.
- Limited to 2 applications per season.
- Minimum of 21 days between applications.
- Spot treatments are permitted.

Apply to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving. Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for aquatic applications.

WATER USE

1. Water for irrigation or sprays:
   A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf, or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.
   B. Due to potential phytotoxicity considerations, the following restrictions are applicable:
   If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses; and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
      i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or,
      ii. A waiting period of 7 days from the time of application has elapsed, or,
      iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.
2. Drinking water (potable water):
   A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
   B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is greater than or equal to 600 ft.
   C. If no setback distance of greater than or equal to 600 ft. is used for application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for public water supply or to individual private water uses. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under State or local law or as a condition of a permit.
   Example: Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.
   Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).
   Application Date: _____ Time: _____ .
   D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
      i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or
      ii. A waiting period of 7 days from the time of application has elapsed, or,
      iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
   E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
   F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.
3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

WATER MILFOIL (*Myriophyllum spicatum*) - Directions For Use

This product will control water milfoil with surface, subsurface and air applications.

How To Use: To control water milfoil when less than 5 gallons of concentrate per acre is recommended, dilute the concentrate with water to apply a minimum of 5 gallons of spray mix per acre. Do not treat within 1/2 mile of potable water intakes. Shoreline areas should be treated by sub-surface injection applied by boat to avoid aerial drift. Do not apply when weather conditions favor drift from target area. Do not contaminate water by cleaning of equipment washwaters.

Open Water Areas: To reduce contamination and prevent undue exposure to fish and other aquatic organisms, do not treat water areas that are not infested with aquatic weeds.

Amounts To Use: Apply 2.5 to 2.75 gallons of this product per acre. The higher rate is used in areas of greater water exchange. These areas may require a repeat application.

When To Apply: For best results, apply in spring or early summer when milfoil starts to grow. This timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before.

Subsurface Application: Apply 2.5 to 2.75 gallons of this product per acre as a concentrate directly into the water through boat mounted distribution systems.

Surface Application: Apply 2.5 to 2.75 gallons of this product per acre in a minimum spray volume of 5 gallons mix per acre.

Air Application: Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 2.5 to 2.75 gallons per acre of this product through standard boom systems with a minimum of 5 gallons of spray mix per acre. For MICROFOIL® drift control spray systems apply this product in 12 to 15 gallons spray mix per acre.

Do not apply within 21 days of previous application.

When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream from the application.

RESTRICTIONS

SUBMERSED AQUATIC WEEDS:

- Maximum of 22.7 pints (10.8 lbs. ae) per acre-foot per per application.
- Limited to 2 applications per season.

Apply to aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams that are quiescent or slow moving. Do not apply within 21 days of previous application. When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream from the application. Coordination and approval of local and State authorities may be required, either by letter of agreement or issuance of special permits for such use.

TABLE 1. AMOUNT OF 2,4-D TO APPLY FOR A TARGET SUBSURFACE CONCENTRATION

SURFACE AREA	Average Depth	For Typical Conditions 2 ppm 2,4-D ae/acre-foot	For Difficult Conditions* 4 ppm 2,4-D ae/acre-foot
1 Acre	1 ft.	5.4 lbs. (11.3 pts. product)	10.8 lbs. (22.7 pts. product)
	2 ft.	10.8 lbs. (22.7 pts. product)	21.6 lbs. (45.4 pts. product)
	3 ft.	16.2 lbs. (34.1 pts. product)	32.4 lbs. (68.2 pts. product)
	4 ft.	21.6 lbs. (45.4 pts. product)	43.2 lbs. (90.9 pts. product)
	5 ft.	27.0 lbs. (56.8 pts. product)	54.0 lbs. (113.6 pts. product)

* Examples include spot treatment of pioneer colonies of Eurasian Water Milfoil and certain difficult to control aquatic species.

WATER USE

1. Water for irrigation or sprays:
   A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf, or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.
   B. Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable:
   If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, noncrop areas or other plants not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
      i. A setback distance described in the Drinking Water Setback Table was used for the application, or,
      ii. A waiting period of 21 days from the time of application has elapsed, or,
      iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. See Table 3 for the waiting period after application but before taking the initial sampling at water intake.
2. Drinking water (potable water):
   A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
   B. For submersed weed applications, the drinking water setback distances from functioning potable water intakes are provided in Table 2. Drinking Water Setback Distance (below).
   C. If no setback distance from the Drinking Water Setback Distance Table (Table 2) is to be used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under State or local law or as a condition of a permit.
   Example: Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting should include the day and time of application. Posting may be removed if analysis of a sample collected at the intake no sooner than stated in Table 3 (below) shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.
   Text of notification: Wait 21 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested no sooner than (insert days from Table 3) and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).
   Application Date: _____ Time: _____ .
   D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:
      i. A setback distance described in the Drinking Water Setback Distance Table was used for the application, or
      ii. A waiting period of at least 21 days from the time of application has elapsed, or,
      iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than stated in Table 3. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
   E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
   F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.
3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

Table 2. Drinking Water Setback Distance for Submersed Weed Applications			
APPLICATION RATE AND MINIMUM SETBACK DISTANCE (FEET) FROM FUNCTIONING POTABLE WATER INTAKE			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
600	1200	1800	2400
* ppm acid equivalent target water concentration			

Table 3. Sampling for Drinking Water Analysis After 2,4-D Application for Submerged Weed Applications			
MINIMUM DAYS AFTER APPLICATION BEFORE INITIAL WATER SAMPLING AT THE FUNCTIONING POTABLE WATER INTAKE			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
5	10	10	14
* ppm acid equivalent target water concentration			

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C0132C, (W.D. WA). For further information, please refer to EPA Web Site: http://www.epa.gov/espp.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Store in original container in a dry, secured storage area. Keep container tightly closed when not in use. Store at temperature above 32°F. If allowed to freeze, warm to at least 40°F and remix before using. Freezing does not alter this product.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate ground water. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Containers Larger than 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container Larger than 5 Gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

(RV031109)

NOTICE TO BUYER

Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.

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Riverdale®

2,4-D L.V. 6 Ester

A SELECTIVE WEED KILLER

FOR CONTROL OF MANY BROADLEAF WEEDS AND BRUSH CONTROL IN CORN, SMALL GRAINS, SOYBEAN (PREPLANT) AND OTHER LISTED CROPS AND IN NON-CROP AREAS SUCH AS FENCE ROWS, LAWNS, PASTURES, RANGELANDS, AND RIGHTS-OF-WAY.

ACTIVE INGREDIENT:	
Isooctyl (2-ethylhexyl) Ester of 2,4-Dichlorophenoxyacetic Acid*	87.3%
OTHER INGREDIENTS:	12.7%
TOTAL:	100.0%

Isomer Specific AOAC Method, Equivalent to:
*2,4-Dichlorophenoxyacetic Acid ..... 57.9%, 5.5 lbs./gal.

KEEP OUT OF REACH OF CHILDREN

CAUTION – CAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. [illegible]
EPA EST. NO. [illegible]

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NUFARM AMERICAS INC.
[illegible]

Nufarm

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION – CAUCION

Harmful if swallowed, inhaled or absorbed through skin. Avoid inhalation of vapors or spray mist, and contact with skin, eyes and clothing. Remove saturated clothing as soon as possible and shower. If this container is over one gallon and less than five gallons, then persons engaged in open pouring of this product must also wear coveralls or a chemical-resistant apron. If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

NON-WPS TURF USES: Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170)–in general, only agricultural-plant uses are covered by the WPS–must wear: long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. After using this product, rinse gloves before removing, remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water. The maximum number of broadcast applications to turf per treatment site is 2 per year.

NON-WPS INDUSTRIAL USES: When mixing, loading or applying this product or repairing or cleaning equipment used with this product, wear face shield, goggles or safety glasses and chemical-resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. For aerial applicators in an enclosed cockpit and applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required. Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry.

WPS USES: Personal Protective Equipment–Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170)–in general, agricultural-plant uses are covered–must wear: long-sleeved shirt and long pants; chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils and Viton ≥ 14 mils; shoes plus socks; and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing of PPE must not be reused until it has been cleaned.

Engineering Controls Statements: If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID	
IF SWALLOWED:	• Call poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Vapors from this product may injure susceptible plants in the immediate vicinity. Use care to avoid spray contact or drift to 2,4-D susceptible plants such as cotton, flowers, fruit trees, grapes, okra, ornamentals and tomatoes. Do not permit spray mist containing this product to drift onto them. Do not spray when the wind is blowing towards susceptible crops or ornamental plants. Use coarse sprays and/or low spray pressure to minimize spray drift. Do not apply with hollow cone type insecticide or other nozzles that produce fine spray droplets. Spray drift can be lessened by keeping the spray boom as low as possible by spraying when wind velocity is low, by decreasing the pounds of pressure of the nozzle tips, and by stopping all spraying when wind exceeds 6 to 7 miles per hour. On cropland and along roadsides, do not exceed 20 psi pressure. Do not apply when a temperature air inversion exists. If questions exist pertaining to the existence of an inversion, consult with local weather services before making an application. Do not use the same spray equipment for applying other materials to 2,4-D susceptible crops as injury may result. It is best to use a separate sprayer for application of insecticides and fungicides. Clean and rinse spray equipment using soap or detergent and water or suitable chemical cleaner, and rinse thoroughly before reuse for other spraying. Do not contaminate water when disposing of equipment washwaters. Do not apply this product through any type of irrigation system. Do not contaminate domestic or irrigation waters. However, treated water may be used for watering turf grasses immediately after application. Do not use in or near a greenhouse. Excessive amounts of this product in the soil may temporarily inhibit seed germination and plant growth.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination. When using on Pastures and Rangeland Grasses there is a (1) 7-day pre-grazing interval for dairy cattle; (2) 30-day preharvest interval for grass cut for hay; and (3) 3-day pre-slaughter interval for meat animals.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils and Viton ≥ 14 mils; shoes plus socks, and protective eyewear. No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not allow people (other than applicator) or pets on treatment areas during application. Do not enter treatment areas until spray has dried.

GENERAL INFORMATION

This product is a low volatile ester especially prepared for use on crops and weeds where a susceptible crop in the near vicinity may be injured by a more volatile product. It is recommended for control of numerous broadleaf weeds and certain 2,4-D susceptible woody plants without injury to most established grasses. In cropland, 2,4-D is more effective than amines for controlling hard-to-kill weeds such as Bindweed, Curly dock, Smartweeds, Tansy ragwort, Thistle, Wild garlic, and Wild onions. For best results, apply this product as a water or oil spray during warm weather when young succulent weeds or brush are actively growing. Application under drought conditions often will give poor results. The lower recommended rates will be satisfactory on susceptible, annual weeds. For perennial weeds and conditions such as the very dry areas of the Western States where control is difficult, the higher recommended rates should be used. Deep-rooted perennial weeds such as Canada thistle and Field bindweed and many woody plants usually require repeated applications for maximum control.

Unless otherwise recommended, suggested application rates may be 1 to 10 gallons of total spray by air or 5 to 25 gallons by ground application equipment. If band treatment is used, base the dosage rate on the actual area to be sprayed. Although water quantities may vary due to different types of application equipment, sufficient water must be used to provide for complete and uniform coverage. In all cases, use

the same recommended amount of 2,4-D per acre. When product is used for weed control in crops, the growth stage of the crop must be considered. For crop uses, do not mix with oil or other adjuvants unless specifically recommended on label. To do so may reduce herbicide's selectivity and could result in crop damage. If you are not prepared to accept some degree of crop injury, do not use this product.

Crop varieties vary in response to 2,4-D and some are easily injured. Apply this product to varieties know to be tolerant to 2,4-D. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D, consult your seed company, State Agricultural Extension Service or qualified crop consultant for advice.

Aerial applications should be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. Although this product is a low volatile formulation, at temperatures above 90°F vapors may damage susceptible crops growing nearby.

TO PREPARE THE SPRAY: (1) Fill the spray tank about half full with water, then add the required amount of this product with agitation, and finally the rest of the water.

NOTE: This product in water forms an emulsion which tends to separate unless the mixture is kept agitated. Continue agitation during application until spray tank is empty. (2) If oil is added, first mix this product and the oil and then add this mixture to the water. However, with adequate agitation, the oil can be added after the product is mixed in water. (3) If straight oil is used, a solution is formed and separation does not occur. Do not allow any water to get into the oil-herbicide mixture to avoid formation of an invert emulsion.

WEEDS CONTROLLED

This product will kill or control the following weeds in addition to many other noxious plants susceptible to 2,4-D.

Alder
Alfalfa
Artichoke
Aster
Austrian fieldcress
Beggartick
Biden
Bindweed
Bitterweed
Bitter wintercress
Blackeyed Susan
Blessed thistle
Blue lettuce
Box elder
Broomweed
Buckbrush
Buckhorn
Bull thistle
Bur ragweed
Burdock
Burhead
Buttercup
Canada thistle
Carpetweed
Catnip
Chamise
Cherokee rose
Chickweed
Chicory
Cinquefoil
Coastal redstem sage
Cockle
Cocklebur
Coffee bean
Coffeeweed
Common sowthistle
Cornflower
Coyotebrush
Creeping Jenny
Croton
Curly Indigo
Dandelion
Devil's claw
Dock
Dogbane
Dogfennel
Elderberry
Fanweed
Fiddle neck
Flea bane (Daisy)
Flixweed
Florida pusley
Frenchweed
Galinsoga
Goatsbeard
Goldenrod
Goosefoot
Ground ivy
Gumweed
Halogeton
Hawkweed
Healall
Hemp
Henbit
Hoary cress
Honeysuckle
Horsetail
Indiana mallow
Indigo
Ironweed
Jerusalem artichoke
Jewelweed
Jimsonweed
Klamathweed
Knotweed
Kochia
Lambsquarter
Locoweed
Lupines
Mallow
Manzanita
Marijuana
Many flowered aster
Marshelder
Mexican weed
Milkvetch
Morningglory
Musk thistle
Mustard
Nettle
Nutgrass
Orange hawkweed
Parsnip
Pennycress
Pennywort
Peppergrass
Pepperweed
Pigweed
Plantain
Poison hemlock
Poison ivy
Pokeweed
Poorjoe
Povertyweed
Prickly lettuce
Primrose
Puncture vine
Purslane
Rabbitbrush
Ragweed
Redstem
Russian thistle
Sagebrush
Salsify
Sand shinnery oak
Shepherdspurse
Sicklepod
Smartweed
Sneezeweed
Southern wild rose
Sowthistle
Spanishneedle
St. Johnswort
Starthistle
Stinging nettle
Stinkweed
Sumac
Sunflower
Sweet clover
Tansymustard
Tansy ragwort
Tanweed
Tarweed
Texas blueweed
Thistle
Toadflax
Tumbleweed
Velvetleaf
Vervain
Vetch
Virginia creeper
Wild buckwheat
Wild carrot
Wild garlic
Wild lettuce
Wild onion
Wild parsnip
Wild radish
Wild rape
Wild strawberry
Wild sweet potato
Willow
Witchweed
Wormseed
Wormwood
Yellow rocket
Yellow starthistle and other broadleaf weeds which may be listed elsewhere on this label.

Some of these species may require repeat applications and/or use of higher rate recommended on this product label even under ideal conditions for applications.

Control of Pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

SELECTIVE WEEDING IN CROPS

USE IN LIQUID NITROGEN FERTILIZER: This product may be combined with liquid nitrogen fertilizer suitable for foliage application on corn, grass, pastures, or small grains in one operation. Use product according to directions on this label for those crops. Use liquid nitrogen fertilizer at rates recommended by supplier or Extension Service Specialist. Mix the product and fertilizer according to the following instructions: Fill the spray tank approximately half full with the liquid nitrogen fertilizer. Add the product while agitating the tank. Add the remainder of the fertilizer while continuing to agitate. Apply immediately, maintaining agitation during application until tank is empty. **Do not apply during cold (near freezing) weather.** Spray mixture must be used immediately and may not be stored. Do not allow mixture to stand overnight.

NOTE: If good, continuous agitation is not maintained, separation of the spray mixture and/or clogging of the nozzles is likely to occur. Fertilizers can increase foliage contact burn of herbicides. Reducing the fertilizer rate and concentration will reduce the hazard of leaf burn.

CORN (Field, Sweet and Popcorn):	Pre-plant -	2/3 to 1-1/2 pints
	Pre-emergent -	Average Conditions - 1-1/3 to 2-1/3 pints
	Emergent -	3/4 pint
	Post-emergent -	Average Conditions - 1/3 pint
		Dry Conditions* - 1/3 to 1/2 pint
	Pre-harvest -	2/3 to 1-1/2 pints

*For Western States–Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming

Use with recommended amounts of water to make per acre applications. Use lower rates of product for easily-killed weeds, on inbreds, and when corn is growing rapidly. Do not cultivate for about 2 weeks after treatment while corn is brittle.

Pre-plant: To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for control of less susceptible weeds or cover crops such as alfalfa.

Pre-emergent: Apply product to emerged weeds from 3 to 5 days after planting but before corn emerges. Do not use on very light, sandy soils. Use the higher rates on heavy soils. Plant corn as deep as practical. Product will not control weeds which have not emerged.

Emergent: Apply in 10 to 30 gallons of water per acre just as corn plants are breaking ground.

Post-emergent: Best results are usually obtained when weeds are small and corn is 4 to 18 inches tall. As soon as corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible; direct spray over tops of weeds but not over the corn. Do not apply from tasseling to dough stage. If corn is growing rapidly and temperature and soil moisture is high, use 1/3 pint per acre to reduce possibility of crop damage. Delay cultivation for 8 to 10 days to prevent stalk breakage due to temporary brittleness caused by 2,4-D. Application rates of up to 2/3 pint per acre may be used to control some hard-to-control weeds. However, the possibility of injury to the corn is increased.

Do not use with atrazine, oil or other adjuvants. Since the tolerance to 2,4-D of individual hybrids varies, consult your seed supplier, local Extension Service, Agricultural Experiment Station, or University Weed Specialist for information.

Pre-harvest: After the hard dough or denting stage, apply 2/3 to 1-1/2 pints in 20 to 50 gallons of water per acre by air or ground equipment to suppress perennial weeds, decrease weed seed production, and control tall weeds such as Bindweed, Cocklebur, Dogbane, Jimsonweed, Ragweed, Sunflower, Velvetleaf and vines that interfere with harvesting. The high rate will be needed for tough weeds under stress.

SMALL GRAINS (barley, oats, wheat, rye), not underseeded with a legume:

Wheat, Barley, Rye –	Annual weeds -	Average Conditions - 1/3 to 2/3 pint
		Dry Conditions (Western States) - 2/3 to 1-1/3 pints
	Perennial weeds -	Average Conditions - 2/3 pint
		Dry Conditions (Western States) - 5/6 to 1-1/3 pints
	Pre-harvest -	Average Conditions - 2/3 to 1-1/3 pints

Oats – spring - 1/3 pint and fall - 1/3 to 1/2 pint

For aerial application on grain, it is suggested to use this product in 1 or more gallons of water per acre, and for ground application, use a minimum of 10 gallons of water per acre. Make application in the spring when the grain is well tillered or stooled (usually about 4 to 8 inches high), but before boot stage. Do not spray before the tiller stage nor from early boot to dough stage.

Use lower rate of product for easily-killed seedling weeds, and higher rate for older and more tolerant weeds. Do not treat grains under-seeded with legumes, and do not spray winter grains in the fall. To control large weeds that will interfere with harvest or to suppress perennial weeds, pre-harvest treatment can be applied when grain is in the dough stage. Higher rates may be needed to handle difficult weed problems in certain areas such as under dry conditions especially in Western areas. However, do not use unless possible crop injury will be acceptable. For the high rates on barley and spring wheat as well as rye and Winter wheat, consult State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

For emergency weed control in wheat: Perennial broadleaf weeds–Apply 2 pints per acre when weeds are approaching bud stage. Do not spray grain in the boot to dough stage. The 2 pint per acre application can produce injury to wheat. Balance the severity of your weed

problem against the possibility of crop damage. Where perennial weeds are scattered, spot treatment is suggested to minimize the extent of crop injury. Use lower rate if small annual and biennial weeds are the major problem. Use the higher rate if perennial weeds or annual and biennial weeds are present which are in the hard-to-kill categories as determined by local experience.

The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the grain damage risk. Do not apply this product to grain in the seedling stage. For aerial application on grain, apply this product in 3 to 10 gallons of water per acre. For ground application, use a minimum of 10 gallons of water per acre.

Spring Seeded Oats: Use 1/3 pint per acre with recommended amount of water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage.

Fall Seeded Oats (Southern): Apply 1/6 to 5/6 pint per acre with recommended amount of water after full tillering but before early boot stage. Some difficult weeds may require the higher rates of 1/2 to 5/6 pint per acre for maximum control but injury may result. Do not spray during or immediately following cold weather.

Pre-harvest Treatment: Apply 3/4 to 1-1/2 pints with recommended amount of water per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth.

NOTE: Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured.

Barley and Wheat: Control of Wild Garlic and Wild Onion
For improved control of difficult weeds including Wild Garlic and Wild Onion, apply 2/3 to 1-1/3 pints of product per acre. Since these rates may injure the crop, do not use unless possible crop damage is acceptable. For the higher rates on barley and spring wheat, consult your local State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

Control of Wild Garlic in Stubble Grain and Corn Fields:
Following the harvest of small grains and corn, Wild Garlic often produces new fall growth. This should be sprayed with 2-2/3 to 4 pints of product in 20 to 40 gallons of water per acre. This is a useful practice as one part of Wild Garlic control program. Do not plant any crop for three months after treatment.

SORGHUM (Milo): For Post-emergent control in average conditions, use 1/3 pint; dry conditions (Western States), use 1/3 to 1/2 pint with suggested volume of 5 gallons of water by air or 6 to 20 gallons with ground equipment to make per acre applications. Apply to sorghum when crop is 5 to 15 inches high to top of canopy with secondary roots well established. If sorghum is taller than 8 inches, use drop nozzles to keep the spray off the foliage as much as possible. Do not apply during boot, flowering or early dough stage. Rates of up to 2/3 pint per acre may be used to control some hard-to-control weeds. However, the chance of crop injury is increased with the higher rates. Do not use with oil. Because temporary injury may occur if conditions of high temperature and high soil moisture exist, use lower rate. Varieties vary in tolerance to 2,4-D and some hybrids are quite sensitive. Spray only varieties known to be tolerant to 2,4-D. Contact seed company or your Agricultural Experiment Station or Extension Service weed specialist for this information.

RED POTATOES (Grown for fresh market): Properly timed applications of this product generally enhance red color, aid in storage retention of red color, improve skin appearance, increase tuber set, and improve tuber size uniformity (fewer jumbos). Crop response may vary depending on variety, stress factors, and local conditions. Consult with Agricultural Extension Service and other qualified crop advisors for local recommendations. Varieties with naturally dark red color generally benefit less from treatment. Apply 1.6 fluid ounces of this product per acre in 5 to 25 gallons of water using ground or aerial equipment. The specific spray volume selected should be sufficient for good coverage of plants. Make first application when potatoes are in the pre-bud stage (about 7 to 10 inches high) and make a second application about 10 to 14 days later. Do not exceed two applications per crop. Do not harvest within 45 days of application. Uneven application, or mixture with other pesticides and additives, may increase the risk of crop injury.

GRASS SEED CROPS: Apply 2/3 to 2-2/3 pints of product in up to 30 gallons of water per acre by air or ground equipment in the spring or fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to milk stage. Spray seedling grass only after the five leaf stage, using 1/2 to 2/3 pint per acre to control small seedling weeds. After the grass is well established, higher rates of up to 2-2/3 pints per acre can be used to control hard-to-control annual or perennial weeds. For best results, apply when soil moisture is adequate for good growth. Do not use on Bent unless injury can be tolerated.

NO-TILL APPLICATION: This product may be used in the broadcast method with a normal boom or with direct pipes set 12" apart in 36" rows. When using this product, apply at a rate of 9-1/2 ounces in 10 gallons of water per acre. Maintain uniform pressure and speed when applying.

ESTABLISHED PASTURES AND RANGELANDS: The rates of application for pastures and rangelands are per acre per application per site. Use 2/3 to 2-2/3 pints of product in sufficient water to give good coverage to one acre depending on type of weeds and stage of growth. Use only on established stands of perennial grasses. Do not use on alfalfa, bentgrass, clover, or other legumes. Do not use on newly seeded areas until grass is well established. Do not use from early boot to milk stage when grass seed production is desired.

Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle and Other Broadleaf Weeds: Use 2-2/3 to 3 pints of this product in 10 to 30 gallons of water per acre. If weeds are young and growing actively, 1-1/3 pints per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

Weed Control in Newly Sprigged Coastal Bermudagrass: Apply 1-1/2 to 3 pints of this product in 20 to 100 gallons of water per acre pre-emergence and/or post-emergence.

Wild Garlic and Wild Onion Control: Apply 2-2/3 to 3 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

CROP RESIDUE MANAGEMENT SYSTEMS IN SOYBEANS (Preplant only)

GENERAL INFORMATION: This product is a herbicide that provides control of many emerged susceptible annual and perennial broadleaf weeds. It may be applied prior to planting soybeans to provide foliar burndown control of susceptible annual and perennial broadleaf weeds and certain broadleaf cover crops such as those listed on this label. This product should only be applied preplant to soybeans in situations such as reduced tillage production systems, where emerged weeds are present. Apply only according to the application instructions given below. Do not use any tillage operations between application of this product and planting soybeans.

MIXING INSTRUCTIONS: Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may increase the herbicidal effectiveness of 2,4-D on certain weeds and may be added to the spray tank. Read and follow all directions and precautions on this label and on all labels of adjuvants or fertilizers mixed with this product.

APPLICATION PROCEDURES: Apply using air or ground equipment in sufficient gallonage to obtain adequate coverage of weeds. Use 2 or more gallons of water per acre in aerial equipment and 10 or more gallons of water per acre in ground equipment.

APPLICATION TIMING AND USE RATES

2,4-D FORMULATION USED	MAXIMUM RATE (PER ACRE)	WHEN TO APPLY (DAYS PRIOR TO PLANTING SOYBEANS)
2,4-D L.V. 6 ESTER	11.6 fluid ounces (apx. 2/3 pint) (0.5 pound a.e./acre)	NOT LESS THAN 7 DAYS
	23.3 fluid ounces (apx. 1-1/3 pint) (1.0 pound a.e./acre)	NOT LESS THAN 30 DAYS

WEEDS CONTROLLED

Alfalfa*
Bindweed*
Bittercress-smallflowered
Bullnettle
Buttercup-smallflowered
Carolina geranium
Cinquefoil-common and rough
Clover-red*
Cocklebur-common
Dandelion*
Evening primrose-cutleaf
Garlic-wild*
Horseweed or marestail
Ironweed
Lambsquarters-common
Lettuce-prickly
Morningglory-annual
Mousetail
Mustard-wild
Onion-wild*
Pennycress-field
Peppergrass*
Purslane-common
Ragweed-common
Ragweed-giant
Shepherdspurse
Smartweed-Pennsylvania*
Sowthistle-annual
Speedwell
Thistle-Canada*
Thistle-bull
Velvetleaf
Vetch-hairy*
Virginia copperleaf

*These species are only partially controlled.

For best weed control at time of treatment, weeds should be small, actively growing and free of stress caused by extremes in climatic conditions, diseases, or insect damage. The response of individual weed species to this product is variable. Consult your local county or State Agricultural Extension Service or crop consultant for advice.

APPLICATION RESTRICTIONS AND PRECAUTIONS

Important Notice–Unacceptable injury to soybeans planted fields treated with this product may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather (temperature and rainfall) from herbicide applications until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.

Do not use on low organic sandy soil (<1.0%).

Apply a maximum of one application per growing season regardless of the treatment rate.

Do not apply this product when weather conditions such as temperature air inversions or wind favor drift from treated areas to susceptible plants.

Livestock Grazing Restriction: Do not feed hay, forage or fodder. Restrict livestock from grazing treated fields. Livestock should be restricted from feeding/grazing of treated cover crops.

In fields treated with this product, plant soybean seed as deep as practical or at least 1.0 inch deep. Adjust the planter, if necessary, to ensure that planted seed is completely covered.

Do not apply this product prior to planting soybeans, if you are not prepared to accept the results of soybean injury, including possible loss of stand and yield.

Do not replant fields treated with this product in the same growing season with crops other than those labeled for 2,4-D use.

SELECTIVE WEEDING IN NON-CROP AREAS

ORNAMENTAL TURF such as Cemeteries, Golf Courses (Aprons, Fairways, Roughs and Tees), Lawns, Parks, and Sod Farms:

Use 1-1/3 to 4-1/2 pints of product in 40 to 180 gallons of water to give good coverage to one acre on established stands of perennial grasses. Usually 2-2/3 pints per acre provides good weed control under average conditions. On turf, apply a maximum of 2.9 pints of this product per

acre per application per site. Treat when weeds are young and actively growing. Do not apply to newly seeded grasses until well established. Use higher rate for hard-to-kill weeds. Use higher rate when using higher volume of water per acre. Do not exceed specified application dosages for any area. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years. Spray when air temperature is between 50° and 85°F. Avoid applying during excessively dry or hot periods unless irrigation (watering) is used before treatment. Do not apply if rainfall is expected within 48 hours, nor should lawns be irrigated for 48 hours following application. For optimum results, turf should not be mowed for 1 to 2 days before and after application. Reseed no sooner than 3 to 4 weeks after application of this product. Adding oil, wetting agent, or other surfactant to the spray may be used to increase effectiveness on weeds but doing so may reduce selectivity to turf resulting in turf damage. Maximum kill of weeds will be obtained by applying in spring and early fall when weeds are actively growing. Do not use on golf greens nor on dichondra or other broadleaf herbaceous ground covers. Do not use on creeping grasses such as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well established.

GENERAL WEED CONTROL

(Airfields, Fencerows, Industrial Sites, Rights-of-Way, Roadsides, Vacant Lots, and similar areas)

Use 1-1/3 to 4 pints of product per acre. Apply when most annual broadleaf weeds are still young and growing vigorously. Apply when perennial and biennial weeds are actively growing and near the bud stage, but before flowering. For best results on Musk thistle and Tansy ragwort, treat in rosette stage, before bolting. A second application is usually needed for best results on Bindweed, Nettle, and Thistle. Treat Garlic or Wild onion in early spring and in fall when they are young and growing actively. Mix 2-2/3 pints of this product in 2 quarts kerosene or diesel oil, then add this mixture to 100 gallons of water. Apply 300 to 500 gallons of spray per acre, depending on the stand. The addition of a wetting agent (spray adjuvant) is suggested. Usually 2-2/3 pints per acre will give adequate control. Do not use on herbaceous ground covers or creeping grass such as Bent. Legumes will usually be damaged or killed. Deep-rooted perennials may require repeat applications. Do not use on freshly seeded turf until grass is well established. Delay reseeding for 30 days.

Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle and Other Broadleaf Weeds: Use 2-2/3 to 3 pints of this product in 10 to 30 gallons of water per acre. If weeds are young and growing actively, 1-1/3 pints per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

Weed Control in Newly Sprigged Coastal Bermudagrass: Apply 1-1/2 to 3 pints of this product in 20 to 100 gallons of water per acre pre-emergence and/or post-emergence.

Wild Garlic and Wild Onion Control: Apply 2-2/3 to 3 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

CONTROL OF SOUTHERN WILD ROSE: On roadsides and fencerows, use 3/4 gallon of this product plus 4 to 8 ounces of an agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed. Two or more treatments may be required. On rangeland, apply a maximum of 2.9 pints of this product per acre per application per site.

SPOT TREATMENT IN NON-CROP AREAS: To control broadleaf weeds in small areas with a hand or back pack sprayer, use 2-2/3 fluid ounces of this product per gallon of water and spray to thoroughly wet all foliage.

GRASSES IN CONSERVATION RESERVE PROGRAM AREAS: To control annual broadleaf weeds, apply when weeds are actively growing. Use 1/3 to 2/3 pint per acre when weeds are small; use higher rates on older weeds. Excessive injury may result if applied to young grasses with fewer than 6 leaves or prior to grasses being well established. To control biennial and perennial broadleaf weeds in established grasses, apply at a rate of 1-1/3 to 2-2/3 pints per acre. Apply to actively growing weeds. Treat when biennial weeds are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage.

NOTE: Suggest at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground. Do not harvest or graze treated Conservation Reserve Program areas. Do not apply to grasses in the boot to dough stage if grass seed production is desired.

FALLOW LAND: Use 1-1/3 to 4 pints of this product in a recommended minimum of 10 gallons of water per acre for ground application and recommended minimum of 2 gallons for aerial application of water per acre on annual broadleaf weeds and up to 4 pints per acre on established perennial species such as Canada thistle and Field bindweed. Use lower rate when annual weeds are small (2" to 3" tall) and growing actively. Use the higher rate on older and drought-stressed plants. Spray musk thistles and other biennial species while in seedling to rosette stage, and before flower stalks are initiated. The lower rate can be used in spring during rosette stage. In fall or after flower stalks have developed, use highest rate. Spray perennial weed in bud to bloom stage, or in good vegetative growth. Do not disturb treated area for at least 2 weeks after treatment or until weed tops are dead. Do not plant any crop for 3 months after treatment or until chemical has disappeared from soil.

BRUSH CONTROL

The maximum application rate for forestry site preparation is 5.8 pints per acre per application per site.

WOODY PLANT CONTROL: To control woody plants susceptible to 2,4-D such as Alder, Buckbrush, Cherokee rose, Elderberry, Japanese honeysuckle, Sumac, Virginia creeper, Wild grape and Willow on non-crop areas such as rights-of-way, fence rows, roadsides and along ditchbanks, use 1-1/3 to 2 quarts of product per acre in 30 to 100 gallons of water. Lower volume of water can be used unless applying through such equipment as Directa-Spra, Wobbler, Mini Wobbler, Spirometer. Spray brush 5 to 8 feet tall after spring foliage is well developed. Wet all parts of the plant thoroughly, including stem and foliage, to the point of runoff. Higher volumes of up to 300 to 500 gallons of spray per acre may be necessary where the brush is very dense and over 6 to 8 feet high.

Spraying can be effective at any time up to 3 weeks before frost as long as soil moisture is sufficient for active growth of the brush. Control will be less effective in mid-summer during hot dry weather when soil moisture is deficient and plants are not actively growing. Oil or wetting agent may be added to the spray if needed for increased effectiveness. Hard-to-control species may require re-treatment next season. In general, it is better to cut tall woody plants and spray sucker growth when 2 to 4 feet tall.

SAND SHINNERY OAK AND SAND SAGEBRUSH: On the oak, use 1-1/2 pints of this product in 5 gallons of oil or in 4 gallons of water plus 1 gallon of oil per acre. Apply by aircraft between May 15 and June 15. On the Sagebrush, use 1-1/2 pints in 3 gallons of oil per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

BIG SAGEBRUSH AND RABBITBRUSH (For Pastures and Rangelands See Note Below): Use 1-1/2 to 4-1/2 pints in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion spray. For Rabbitbrush, the 4-1/2 pints rate is usually required. Brush should be leafed out and growing actively when treated. Retreatment may be needed.

Buckbrush, Chamise, Coastal Sage, Coyotebrush, Manzanita and certain other Chaparral Species: Use 1-1/2 to 4-1/2 pints per acre in 5 to 10 gallons of water. One gallon of fuel oil may be included in the spray mixture for added effectiveness. Make applications by aircraft or ground equipment to obtain uniform spray coverage. For effective control, the brush must be fully leaved out and growing actively when sprayed. Retreatment may be needed. Consult State or local brush control specialists for most effective rate, volume and timing of spray application.

NOTE: May be applied to Pastures and Rangelands at a maximum rate of 3 pints per acre per application per site.

USES IN FOREST MANAGEMENT

Conifer Release: For control of Alder, apply 1 to 1-1/3 quarts of product per acre in 8 to 25 gallons of water, and apply as a foliage spray. Treat when 3/4 of the brush foliage has attained full size leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth and brush species. This may cause leader deformation on exposed firs, but they should overcome this during the second year after spraying. To control susceptible brush species such as *Ceanothus* spp., Chinquapin, Madrone, Manzanita, Oak and Tanoak and to release Douglas fir, Grand fir, Hemlock, or Sitka spruce, apply 2 quarts of product per acre before new growth on Douglas fir is 2 inches long. To control Manzanita and Ceanothus in Ponderosa pine, apply 2 quarts of this product before pine growth begins in spring.

To increase performance, add 2 to 4 quarts of diesel, fuel oil, kerosene, or a suitable approved agricultural surfactant at recommended label rate.

After Black spruce, Jack pine, Northern conifers, Red pine and White spruce cease growth and "harden off" (usually in mid-July), a spray of 1 to 2 quarts of product in 8 to 25 gallons of water per acre may be applied by air to control certain competing hardwood species such as Alder, Aspen, Birch, and Willow. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult your Regional or Extension Forester or State herbicide specialist for recommendations to fit local conditions.

Tree Injections (Pine Release): To control hardwoods, such as Elm, Hawthorn, Hickory, Maple, Oak, Pecan, Sumac and Sweetgum in forest and other non-crop areas, apply this product undiluted in a concentrate tree injector calibrated to apply .7 mL per injection. Space injections 2 inches apart, edge to edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as Ash, Blue beech, Dogwood, Hickory, and Red maple, make injections 1 to 1-1/2 inches apart, edge to edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 to October 15. For dilute injections, mix 2/3 gallon of this product in 19 gallons of water.

Dormant Application (other than pine): For the control of susceptible deciduous brush species such as Alder, Cascara, Cherry poplar and Serviceberry, apply up to 2 quarts of product per acre in sufficient diesel, fuel oil or kerosene for good coverage.

Application may be made by ground or air and should be made before conifer bud break.

Pine Only: Make application while pine buds are still dormant. Apply 1-1/3 quarts of product per acre in sufficient water for good coverage by air or ground equipment. Do not use this application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.

Christmas Tree Plantations: For control of labeled broadleaf weeds in Douglas Fir Christmas trees, use 2/3 to 1-1/3 pints of this product per acre.

Apply over the top of Douglas Fir by ground or aerial application equipment only when the trees are dormant, prior to bud break. Do not spray over the top of pine or true firs (*Abies* spp.).

Directed Sprays may be made to weeds in Christmas tree plantations of all conifer species, but the spray must not contact tree foliage as injury may occur. Do not apply to weakened, diseased, or stressed seedlings since unacceptable injury can occur. This product may be mixed with Atrazine for Christmas tree application. (See Tank Mix section.)

Herbaceous Weed Control: To control over-wintering susceptible weeds such as False dandelion, Klamath weed, Plantain, Tansy ragwort, apply 2/3 to 2 quarts of product in sufficient water for good coverage. Make application at rates and timing indicated above if Pines are present. For control of Hazel brush and similar species in the Lake States area, apply 1-1/3 quarts of product per acre in 8 to 25 gallons of water when new shoot growth of Hazel is complete (usually mid-July).

Site Preparation: (As Budbreak Spray) – For control of Alder prior to planting seedlings, apply 1-1/3 to 2-2/3 quarts of product per acre in 8 to 25 gallons of water, after Alder budbreak but before foliage is 1/4 full size. Application may be made by air or ground. If desired, diesel, fuel oil or kerosene may be substituted for water as diluent. (As Foliage Spray) – For control of Alder prior to planting seedlings, apply 1-1/3 to 2 quarts of product per acre in 8 to 25 gallons of water, after most Alder leaves are full size. To increase penetration, 2 to 4 quarts per acre of diesel, fuel oil, kerosene, or a suitable approved agricultural surfactant at recommended label rates may be added to the spray mixture.

TANK MIXES

Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

Using this product and Buctril® ME4 for weed control on cereal grains (Barley, Rye and Wheat): Buctril ME4 Broadleaf Herbicide will control some annual weeds that are resistant to this product and may be tank mixed with this product for broader spectrum weed control on small grains. In cereal areas except Idaho, Oregon and Washington, use 1/3 to 2/3 pint of this product plus 1/2 to 3/4 pint of Buctril ME4 per acre. In Idaho, Oregon and Washington: use 1/3 to 2/3 pint of this product plus 3/4 to 1 pint Buctril ME4 per acre. First mix this product in water, then add the Buctril ME4. Use the higher rates for larger weeds or where weed growth is slow due to dry or cold weather. Apply before weeds are 6 inches high. Use 10 to 20 gallons total spray volume per acre with ground equipment or 5 to 10 gallons total spray volume with air application. Use higher volume on larger weeds.

Using this product with Banvel SGF and Ally (or Express) or Diablo to provide more complete Kochia control: Offers quick burndown. Provides residual activity with Ally to control later weed flushes making harvesting easier and reducing post-harvest weed control needs. Controls broader weed spectrum while offering better control of Flixweed, Mustards, Russian thistle, and Wild buckwheat. Controls large weeds. Allows for early treatment. Apply 5.3 ounces of this product with 0.1 ounce of Ally plus either 2 to 3 ounces of Diablo or 4 to 6 ounces of Banvel SGF per acre. The tank mix can be applied to Winter wheat and the four-leaf stage (tillering) to prior to joint. It can be applied to spring wheat from the four-leaf stage through the five-leaf stage. Growers who want to rotate to a sensitive crop following wheat and are concerned about carryover from Ally, can substitute Express in the tank mix which allows crop rotation 60 days after application. The recommended rate of Express is 1/6 oz. per acre.

Using this product and Sencor as knockdown herbicides for no till: This product with Sencor DF alone or in combination with Dual, Lasso, Surflan or Prowl may be applied as an early preplant surface application for the control of certain broadleaf weeds and grasses in soybeans in minimum or no-till products. Application is recommended 30 days prior to planting. Apply at rate of 1-1/3 pints of this product (1 pound a.i.) per acre with labeled rates of Sencor. Where grass herbicide is used in tank mix, apply at the rates specified on that product's label.

Using this product and Aatrex for weed control in Christmas tree and forest plantings: A tank mix of these two products can be used to control weeds and thus aid in the establishment of young transplants of Austrian pine, Bishop pine, Blue spruce, Douglas fir, Grand fir, Jeffrey pine, Knobcone pine, Loblolly pine, Lodgepole pine, Monterey pine, Nobel fir, Ponderosa pine, Scotch pine, Sitka spruce, Slash pine, and White fir.

The mix should be applied between fall and early spring, preferably in February or March, while trees are still dormant, or soon after transplanting. Weeds should not be more than 1-1/2 inches high. It can be applied with either ground or air equipment. Helicopters have been highly effective for reforestation applications or steep terrain. Uniform application is the key to good weed control. Use 20 to 40 gallons of water per acre for ground applications. When applying by air, use a minimum of 5 gallons of water. When applying by air, use a minimum of 5 gallons of water. When applying more than 5 pounds of Aatrex, use a minimum of 1 gallon of water for each 1 to 1-1/2 pounds of Aatrex. Be sure equipment is properly calibrated. All screens in the spray system–nozzles, and in-line and suction strainers–should be 15 mesh or coarser. Use a pump with capacity to maintain a nozzle pressure of 35 to 40 psi, and sufficient agitation to keep the mixture in suspension in the spray tank. If a nurse tank is used, keep the mixture agitated while awaiting transfer to the spray tank. Mix 2 to 4 quarts Aatrex 4 L or 2-1/2 to 5 pounds Aatrex 80W with 2/3 to 2 quarts of this product. The actual rate of Aatrex used should depend on soil type. Soils high in organic matter require higher rates than light to medium soils. Band application to Christmas Trees – Calculate the amount to be applied per acre. The band width in inches, divided by the rows spacing in inches, times the rate per acre for broadcast treatment will equal the amount needed per acre for band treatment. For example, when treating a 4-foot band over trees planted in rows of 8 feet apart, apply 1-1/4 to 2-1/4 pounds of Aatrex per acre. Please read Aatrex label(s) for additional instructions.

Using this product and Turbo 8EC in reduced-tillage or no-till systems: This product may be applied in combination with Turbo 8EC for the control of annual grasses and broadleaf weeds and the suppression of emerged perennial weeds when soybeans are directly seeded into a stale seedbed, cover crop or in previous crop residues. Special precautions: poor weed control and/or crop injury may result if directions are not followed. Do not use a rib-type press wheel on your no-till planter or crop injury may result. Apply at a rate of 1-1/3 pints of this product (1 pound a.i.) per acre with labeled rates of Turbo 8EC. Application is recommended 30 days prior to planting.

Using this product and Poast as a burndown prior to planting soybeans: For broad spectrum post-emergence weed control, a tank mix application of this product with Poast may be made for control of emerged broadleaf and grass weeds before planting soybeans. Apply at a rate of 1-1/3 pints of this product (1 pound a.i.) per acre with labeled rates of Poast up to 30 days prior to planting.

Using this product with Scepter, Scepter 70 DG or Squadron in preplant applications in no-till soybeans: For broad spectrum post-emergence weed control, a tank mix application of this product with Scepter, Scepter 70 DG or Squadron herbicides may be made for the control of emerged broadleaf and grass weeds before planting soybeans. Apply at a rate of 1/2 pound a.e. of this product (Prox. 2/3 pint) per acre up to 7 days prior to planting, or 1 lb. a.e. (Prox. 1-1/3 pints) per acre up to 30 days prior to planting, with labeled rates of Scepter, Scepter 70 DG or Squadron herbicides.

Using this product and Tahoe 4E or Tahoe 3A tank mixtures for Non-Crop Areas: Broadleaf Weed Control: Use 1-1/3 to 2-2/3 pints of this product plus 2 to 6 pints Tahoe 4E (or 3 to 8 pints Tahoe 3A) per acre. For wider spectrum control of broadleaf weeds and woody plants, apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing. Woody Plant Control Broadcast Foliar Spray: Use 2/3 to 1-1/3 gallons of this product plus 1-1/2 to 3 quarts Tahoe 4E (or 2 to 4 quarts Tahoe 3A) per acre. Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when woody plants are actively growing. Woody Plant Control High Volume Leaf-Stem Treatment with Ground Equipment: Use 2/3 to 5-1/3 quarts of this product plus 1-1/2 to 12 pints Tahoe 4E (or 2 to 16 pints Tahoe 3A) per acre. Mix 2/3 to 2 quarts of this product plus 1-1/2 to 3 pints Tahoe 4 (or 2 to 4 pints Tahoe 3A) in enough water to make 100 gallons of spray. Apply at a volume of 100 to 400 gallons of total spray per acre depending on size

and density of woody plants. Thoroughly wet all leaves, stems, and root collars of plants to be controlled. Woody Plant Control Aerial Application (Helicopter only): Use 2/3 to 1-1/3 gallons of this product plus 3 to 4 quarts Tahoe 4E (or 4 to 6 quarts Tahoe 3A) per acre. Apply in a total spray volume of 10 to 30 gallons per acre using drift control equipment such as Microfoil boom or an effective drift control agent such as Lo-Drift Spray Additive. Use the higher rates and volumes when plants are dense or under drought conditions.

Using this product and Diablo Herbicide tank mixtures for Non-Crop Areas: Annual Broadleaf Weeds: Use 1-1/3 to 2-2/3 pints of this product plus 1/2 to 1-1/2 pints Diablo. For wider spectrum control of broadleaf weeds and woody plants, apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing. Use the higher rates when treating dense or tall vegetative growth. Perennial and Biennial Broadleaf Weeds: Use 2 to 4 pints of this product plus 1/2 to 6 pints Diablo. Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing but prior to flowering. Use the lower rates for biennials less than 3 inches rosette diameter. Use the higher rate for perennial weeds or for biennial weeds past the 3 inch rosette stage. Woody Plant Control Broadcast, High Volume, Stem Foliage or Aerial Application: Use 2/3 to 1-1/3 gallons of this product plus 2 to 8 quarts Diablo. Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre or apply as a high volume stem foliage spray in enough volume to thoroughly wet leaves, stems, and root collars (100 to 400 gallons per acre) or apply aerially in enough water to deliver total spray volume of 10 to 30 gallons per acre using drift control equipment such as Microfoil Boom or an effective drift control agent such as Lo-Drift Spray Additive. Use the higher rates and volumes when plants are dense or under drought conditions.

Using this product and Escort®, Oust® and Telar®: To improve control of some target species, this product may also be tank mixed with Escort, Oust, and Telar herbicides for post-emergent weed control. Tank mixes have shown improved control where resistant bio-types are present.

NOTE: All intended tank mix combinations should be used only in recommended areas on the same broadleaf weed species found on both labels. For application methods and other use specifications, use the most restricted limitations from labeling of both products.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Always use original container to store pesticides in a secured warehouse or storage building. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not store near open containers of fertilizer, seed or other pesticides. Do not stack cardboard cases more than two pallets high.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and local procedures. Plastic containers are also disposable by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Local conditions may affect the use of this chemical. Consult State Agricultural Experiment Station or Extension Service weed specialist for specific recommendations for local weed problems and for information on possible lower dosages.

WARRANTY

Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risk of use, storage or handling of this material not in strict accordance with directions given herewith.

(RV022004)

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Directa-Spra, Wobbler, Mini Wobbler, Spirometer, Lo-Drift, and Buctril are registered trademarks of Aventis CropScience.
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Turbo is a trademark of Mobay Corp.
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RIVERDALE® 2,4-D L.V. 6 ESTER

A SELECTIVE WEED KILLER

ACTIVE INGREDIENT:
Isooctyl (2-ethylhexyl) Ester of 2,4-Dichlorophenoxyacetic Acid* 87.3%
OTHER INGREDIENTS: 12.7%
TOTAL: 100.0%

Isomer Specific AOAC Method, Equivalent to:
*2,4-Dichlorophenoxyacetic Acid ..... 57.9%, 5.5 lbs./gal.

PULL HERE TO OPEN
PRESS TO RESEAL

KEEP OUT OF REACH OF CHILDREN

CAUTION – CAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)
SEE ATTACHED BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION – CAUCION

Harmful if swallowed, inhaled or absorbed through skin. Avoid inhalation of vapors or spray mist, and contact with skin, eyes and clothing. Remove saturated clothing as soon as possible and shower. If this container is over one gallon and less than five gallons, then persons engaged in open pouring of this product must also wear coveralls or a chemical-resistant apron. If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

FIRST AID	
IF SWALLOWED:	• Call poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Always use original container to store pesticides in a secured warehouse or storage building. Containers should be opened in well ventilated areas. Keep container tightly sealed when not in use. Do not store near open containers of fertilizer, seed or other pesticides. Do not stack cardboard cases more than two pallets high.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and local procedures. Plastic containers are also disposable by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

MANUFACTURED BY
NUFARM AMERICAS INC.
BURR RIDGE, IL 60527-0866

EPA REG. NO. 228-95
EPA EST. NO. 228-IL-1

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Loveland PRODUCTS

WHITEOUT 2,4-D

LOW VOLATILE ESTER HERBICIDE
CONTAINS NO SOLVENT

ACTIVE INGREDIENT:

2-ethylhexyl ester of 2,4-dichlorophenoxyacetic acid*	**60.80%**
OTHER INGREDIENTS:	**39.20%**
TOTAL	**100.00%**

*2,4-dichlorophenoxyacetic acid equivalent 40.32% or 3.7 lbs per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
If Swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on Skin or Clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in Eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-866-944-8565 for emergency medical treatment information.	

See inside booklet for additional Precautionary Statements.

FOR CHEMICAL SPILL, LEAK, FIRE, OR EXPOSURE, CALL CHEMTREC (800) 424-9300.

EPA REG. NO. 34704-1032

EPA EST. NO. 37507-MT-001

NET CONTENTS 2½ GALS. (9.46 L)

062310 V1D 08RB10

WHITEOUT® 2,4-D
EPA REG. NO. 34704-1032

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION: Harmful if swallowed

Causes eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT/PPE:
Some materials that are chemical-resistant to this product are butyl rubber, natural rubber, neoprene or nitrile rubber. If you want more options, follow the instructions for Category A on an EPA chemical- resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:
- Long-sleeved shirt and long pants,
- Shoes and socks,
- Chemical resistant gloves when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate,
- Chemical resistant apron when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

If this container contains over 1 gallon and less than 5 gallons, mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

See engineering controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

ENGINEERING CONTROLS STATEMENTS
Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS
This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash-waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Apply this product only as directed on label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. Do not apply this product through any type of irrigation system.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.
Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls,
- Chemical resistant gloves made of any waterproof material,
- Shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or nurseries.
Do not enter or allow people (or pets) to enter the treated areas until sprays have dried.

PRODUCT INFORMATION

Performance of WHITEOUT® 2,4-D may be affected by local conditions, crop varieties, and application method. User should consult local extension service, agricultural experiment or university weed specialists, and state regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than specified will be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, use the higher specified rates. When WHITEOUT 2,4-D is used for weed control in crops, the growth stage of the crop must be considered.

Some plants and weeds, especially woody varieties, are difficult to control and may require repeat applications. Application rates should be 2 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of WHITEOUT 2,4-D specified per acre. For crop uses, do not mix with oil, surfactants, or other adjuvants unless specifically directed. To do so may reduce herbicide's selectivity and could result in crop damage. Aerial application must be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. Although WHITEOUT 2,4-D is a low volatile formulation, at temperatures above 90°F vapors may damage susceptible plants nearby.

Product must not be used in greenhouses. Excessive amounts of 2,4-D in the soil may temporarily inhibit seed germination and all plant growth.

Spray equipment used to apply 2,4-D should not be used for any other purpose until thoroughly cleaned with a suitable chemical cleaner.

Spray Preparation: Add the specified amount of product to approximately one-half the volume of water to be used for spraying. Agitate well, and then add the remainder of the water. Continue agitation during application until spray tank is empty.

USE IN LIQUID NITROGEN FERTILIZER: WHITEOUT 2,4-D is specially formulated to be combined with liquid nitrogen fertilizer suitable for foliar application on corn, grass, pastures, or small grains in one operation. Use WHITEOUT 2,4-D according to directions on this label for those crops. Use liquid fertilizer at rates recommended by supplier or extension service specialist. Mix WHITEOUT 2,4-D and fertilizer according to the following instructions:
Add half the recommended amount of liquid fertilizer to the spray tank. Add WHITEOUT 2,4-D while agitating the tank. Add the remainder of the liquid fertilizer while continuing to agitate. Application should be made immediately, maintaining agitation until tank is empty. DO NOT APPLY DURING COLD (NEAR FREEZING) WEATHER. Spray mixture may not be stored.

SPRAY DRIFT

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

2,4-D esters may volatilize during conditions of low humidity and high temperatures. Do not apply during conditions of low humidity and high temperatures.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a coarse or coarser spray, apply only as a coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.
When applying sprays that contain 2,4-D mixed with other active ingredients that require a medium or more fine spray, apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for non-target species, non-target crops) within 250 feet downwind. If applying a medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions
If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.
2,4-D esters may volatize during conditions of low humidity and high temperatures. Do not apply during conditions of low humidity and high temperatures.

Susceptible Plants
Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements
Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment
All aerial equipment and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

For aerial equipment, the boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made in a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

For ground boom application, do not apply with a nozzle height greater than 4 feet above the crop canopy.

APPLICATION INSTRUCTIONS

Spray volume: Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, apply the specified rate of this product in a spray volume of 2 or more gallons per acre by air and 10 or more gallons per acre for ground equipment. Use low-pressure sprays to minimize drift. Where states have regulations, that specify minimum spray volumes, they should be observed. In general, spray volume should be increased as crop canopy, height and weed density increase in order to obtain adequate spray coverage.

Application Rates: Generally, lower rates in specified rate ranges will be satisfactory for more sensitive weeds species, when weeds are small, and when environmental conditions are favorable for rapid growth. Use higher rates in the specified rate range for less sensitive species and under less favorable growing conditions. For crop uses, do not mix with emulsifiable oil or other adjuvants unless specifically directed on this label. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for effective control.

Spot Treatments
To prevent misapplication apply spot treatments with a calibrated boom or with hand sprayers using a fixed spray volume per 1,000 sq ft as indicated below.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of WHITEOUT 2,4-D. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on the application rate for an area of 1,000 sq ft. Mix the amount of WHITEOUT 2,4-D (fl oz or ml) corresponding to the desired broadcast rate in 1 to 3 gallons of spray. To calculate the amount of WHITEOUT 2,4-D required for larger areas, multiply the table value (fl oz or ml) by the thousands of sq ft to be treated: An area of 1,000 sq ft is approximately 10.5 x 10.5 yards (strides) in size.

Rate Conversion Table for Spot Treatment:

Label Broadcast Rate (pt/acre)							
1/2	2/3	3/4	1	2	3	4	8
Equivalent Amount of WHITEOUT 2,4-D per 1,000 sq ft							
1/5 fl oz (5.5 ml)	1/4 fl oz (7.3 ml)	1/3 fl oz (8.3 ml)	3/8 fl oz (11 ml)	3/4 fl oz (22 ml)	1 fl oz (33 ml)	1-1/2 fl oz (44 ml)	3 fl oz (88 ml)

Conversion factors: 1 pt =16 fl oz; 1 fl oz = 29.6 ml

Band Application: WHITEOUT 2,4-D may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

$$\text{Band rate per treated acre} = \frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre}$$

$$\text{Band volume per treated acre} = \frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre}$$

WHERE TO USE
WHITEOUT 2,4-D is used to control broad-leaved weeds in cereal crops, corn, sorghum, weeds and brush in rangeland, pastures, rights-of-way, ornamental turf, grass seed crops, fallow land, forest management and similar non-crop uses.

Annual or Biennial Weeds

beggarticks
bittercress, smallflowered (2)
bitterweed
broomweed, common (1)
burdock, common
buttercup, smallflowered (1) (2)
carpetweed
cinquèfoil, common (2)
cinquèfoil, rough (2)
cocklebur, common
coffeeweed
copperleaf, Virginia
croton, Texas
croton, wooly
flixweed
galinsoga
geranium, Carolina (2)
hemp, wild
horseweed (marestail) (2)
jewelweed
jimsonweed
knotweed (1)
kochia
lambsquarters, common
lettuce, prickly (1) (2)
lettuce, wild
lupines
mallow, little
mallow, Venice (1)
marshelder
morningglory, annual
morningglory, ivy
morningglory, woolly
mousetail (2)
mustards (except blue mustard)
parsnip, wild
pennycress (fanweed)
pepperweeds (*Lepidium* spp.) (1) (2)
pigweeds (*Amaranthus* spp.)
poorjoe
primrose, common
purslane, common (2)
pusley, Florida
radish, wild
ragweed, common
ragweed, giant
rape, wild
rocket, yellow
salsify, common
salsify, western (1)
shepherdspurse
sicklepod
smartweed (annual species) (1) (2)
sneezeweed, bitter
sowthistle, annual
sowthistle, spiny
spanishneedles
sunflower
sweetclover
tansymustard
thistle, bull
thistle, musk
thistle, Russian (tumbleweed)
velvetleaf
vetches

Perennial Weeds

alfalfa (1)
artichoke, Jerusalem (1)
aster, many-flower (1)
Austrian fieldcress
bindweed (hedge, field and European) (1) (2)
blue lettuce
blueweed, Texas
broomweed
bullnettle (1) (2)
carrot, wild
catnip
chicory
clover, red (1) (2)
coffeeweed
cress, hoary (1)
dandelion
docks (1)
dogbanes (1)
eveningprimrose, cutleaf (2)
garlic, wild
goldenrod
hawkweed, orange
healall
ironweed, western (2)
ivy, ground (1)
nettles (including stinging) (1)
onion, wild (1)
pennywort
plantains
ragwort, tansy
sowthistle, perennial
thistle, Canada (1) (2)
vervains (1)
wormwood

(1) Difficult-to-Control Weeds: These weeds are only partially controlled and may require repeat applications and/or use of the higher listed rate of this product even under ideal conditions of application.
(2) This product may not be used to control this weed species in the state of California.

CROPS
CEREAL GRAINS (Wheat, Barley, Millet, Oats, Rye)
(Not under seeded with Legumes)

Crop/Application Timing	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Wheat, Barley, Millet, Rye Annual and biennial broadleaf weeds Perennial broadleaf weeds	1/2 to 2† 1 to 2†	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. Do not apply before tillering or from early boot through the milk stage of growth.
Oats (Spring Seeded) (Fall Seeded Southern)	1/2 3/4 to 1 1/4†	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. Do not apply before tillering or from early boot through the milk stage of growth. Do not apply during or immediately following cold weather.
Preharvest application (All cereals)	1	Apply using air or ground equipment to control weeds that could interfere with harvest, or to suppress perennial weeds. Apply when grain is in dough stage. Do not apply from early boot through the milk stage of growth.

† Use the lower rate in the rate range if small annual or biennial weeds are the major problem; use the higher rate if perennial weeds or biennial weeds are present that are considered to be hard-to-kill as determined by local experience. Higher rates increase the risk of crop injury and should be used only where weed control justifies such risk. Do not apply WHITEOUT 2,4-D at the crop seedling stage of growth. Consult state agricultural experiment station or extension service weed specialists for recommendations or suggestions to fit local conditions.

CEREAL GRAIN RESTRICTIONS:
Postemergence:
- Make no more than one application per crop cycle.
- Do not apply more than 2-2/3 pints per acre per application.

Preharvest:
- Make no more than one application per crop cycle.
- Do not apply more than 1 pint per acre per application.
- Pre-Harvest Interval is 14 days.
- Do not graze lactating dairy cattle in treated areas for 14 days after application. Remove meat animals from freshly treated areas 7 days before slaughter.
- Do not harvest hay from treated grain fields.
  WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.75 pounds of a.e. per acre per year.

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CORN (Field Corn, Popcorn and Sweet Corn)

Application Timing/Stage of Growth	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Preplant (Burndown) Preemergence (Field corn, popcorn, and sweetcorn)	1 to 2	General: For best results, growth conditions should be favorable for active weed growth. Use high rate in rate range for less susceptible weeds, cover crops such as alfalfa, weeds in advanced stages of development, or under less favorable growth conditions. Preplant: Apply 7 to 14 days before planting corn to control emerged broadleaf weed seedlings or existing cover crops. Preemergence: Apply any time after planting, but before corn emergence to control broadleaf weed seedlings or existing cover crops. Do not use on light sandy soils.
Postemergence (Field corn, popcorn, and sweet corn) Annual broadleaf weeds Crop up to 8 inches tall Crop 8 inches tall to tasseling (directed spray only) Perennial broadleaf weeds	 1/2 to 1 1 1	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). If corn is more than 8 inches tall, use drop nozzles to keep spray off foliage. Treat perennial weeds when they are in bud to bloom stage. Do not harvest sweet corn before 45 days following application. Do not apply from tasseling to hard dough stage. Note: Corn treated with 2,4-D may become temporarily brittle. Wind or cultivation may cause stem breakage during the period of time that corn is brittle. Sweet corn: To minimize potential for crop injury, use only lowest rate in rate range.
Preharvest (Field corn and popcorn only)	Up to 3	Apply after corn is in hard dough (or denting) stage. Do not make preharvest applications to sweet corn.

CORN RESTRICTIONS:
- Do not forage or feed corn fodder to livestock for 7 days following application.

Preplant or Preemergence:
- Do not make more than one application per crop cycle.
- Do not apply more than 2 pints per acre per application.

Postemergence:
- Do not make more than one application per crop cycle.
- Do not apply more than 1 pint per acre per application.

Preharvest (field and popcorn ONLY):
- Do not make more than one application per crop cycle.
- Do not apply more than 3 pints per acre per application.
- Minimum spray interval between applications is 30 days.
- Pre-Harvest interval is 7 days.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 3.0 pounds of a.e. per acre per year.

SORGHUM (Grain Sorghum (Milo) and Forage Sorghum)

Application Timing/Stage of Growth	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Postemergence†		Apply when sorghum is 6 to 15 inches tall. If sorghum is more than 8 inches tall (top of canopy), use drop nozzles to keep spray off of foliage. Do not use with oil or other adjuvants. Do not treat during boot, flowering or dough stage.
Crop 6 - 8 inches tall	1/2 to 1†	
Crop 8 - 15 inches tall (directed spray only)	3/4 to 1	

†Temporary crop injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply WHITEOUT 2,4-D under these conditions, use no more than 2/3 pint per acre.

SORGHUM RESTRICTIONS:

Postemergence:

- Do not make more than one application per crop cycle
- Do not apply more than 1 pint per acre per application.
- Do not permit meat or diary animals to consume treated crop as fodder or forage for 30 days following application.
- Preharvest Interval is 30 days.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 0.5 pounds of a.e. derived from ester forms of 2,4-D per acre per year.

SOYBEANS — For Use in Crop Residue Management Systems (Pre-plant Burndown Application Only)

Application Timing/Stage of Growth	WHITEOUT 2,4-D (pt/acre)	Number of Applications	Specific Use Directions
Preplant (Burndown) (OPTION 1)	3/4 to 1	Limited to 2 preplant applications per crop cycle	Apply not less than 7 days before planting soybeans. See Use Precautions and Restrictions below.
Preplant (Burndown) (OPTION 2)	1 to 2	Limited to 1 preplant application per crop cycle	Apply not less than 15 days before planting soybeans. See Use Precautions and Restrictions below.

Use Directions: Use WHITEOUT 2,4-D to control emerged broadleaf weeds or existing cover crops. For best results, apply when weeds are small and actively growing. Use the higher rate in the respective rate range for larger weeds and when perennials are present. Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may be added to spray mixtures to increase the herbicidal effectiveness on certain weeds. Read and follow all directions and precautions on this label and on the label of each product added to the spray mixture.

RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS

- Choose either Option 1 OR Option 2. These two options may not be used together in the same crop cycle, as the maximum application rate would be exceeded.
- Do not apply this product prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.
- Do not use on low organic sandy soils (less than 1.0%).
- Do not apply this product when weather conditions such as temperature, air inversions, or wind favor drift from treated areas to susceptible plants.

- Do not mow or cultivate weeds prior to treating with this product as poor control may result.
- Do not feed treated hay, forage, or fodder or graze treated soybeans to livestock. Do not feed or graze treated cover crops to livestock.
- Do not replant fields treated with this product in the same growing season with crops other than those labeled for 2,4-D use.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.0 pound of a.e. per acre per year.

ORNAMENTAL TURF (Excluding Grasses Grown For Seed or Sod Farms) (Includes lawns, golf courses, cemeteries and parks)

Use Requirements for Ornamental Turf Areas: When this product is applied to ornamental turf areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

Treatment Site Application Timing	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Ornamental Turf (Postemergence)		Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth.
Seedling grass (five-leaf stage or later)	3/4 to 1	
Well-established grasses	2 to 3	Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications.
Biennial and perennial broadleaf weeds	3	Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are tolerant of higher rates.

ORNAMENTAL TURF RESTRICTIONS:

- Do not apply more than 3 pints per acre per application.
- Do not make more than 2 broadcast applications per treatment site per year.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 3.0 pounds of a.e. per acre per year excluding spot treatments.

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GRASSES GROWN FOR SEED or SOD FARMS

Agricultural Use Requirements: When used in grass grown for seed or sod farms, follow PPE and reentry instructions in the "Agricultural Use Requirements" section of this label.

Treatment Site Application Timing	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Grasses Grown for Seed (Postemergence Use) Seedling grass (five-leaf stage or later)	3/4 to 1	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are tolerant of higher rates. Do not apply to grass in the early boot through milk stage if seed production is desired. When grass is well established, higher rates of up to 4 pints/acre may be applied for control of hard-to-kill annual or perennial weeds. Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod farms for 1 to 2 days before or after application. Delay irrigation until the day following application.
Well-established grasses	1 to 4	
Sod Farms (Postemergence)	2 to 4	

GRASS SEED CROP RESTRICTIONS:

- Do not graze dairy cattle within 7 days of application. Do not apply this product within 30 days of cutting grass for hay. Remove meat animals from treated areas 7 days prior to slaughter.
- Do not apply more than 4 pints per acre per application.
- Do not make more than 2 applications per year.
- Minimum spray interval between applications is 21 days.
- Do not apply more than 8 pints per acre per year.
- If grass is to be cut for hay, Agricultural Use requirements for the Worker Protection Standard are applicable.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

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FALLOWLAND and CROP STUBBLE

Fallowland is considered to be idle cropland, postharvest to crops or between crops.

Type of weeds	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Annual broadleaf weeds	1 to 2	Use a lower rate in the rate range when weeds are small (2 to 3 inches tall) and actively growing. Use a higher rate in the rate range when weeds are larger and under less favorable growth conditions.
Biennial broadleaf weeds	2 to 4	Apply when musk thistles or other biennial species are in the seedling to rosette stage and before development of flower stalks. The lower rate can be used in the spring during the rosette stage. Use the highest rate in the fall or after flower stalks have developed.
Perennial broadleaf weeds	2 to 4	Apply when perennial weeds are in bud to early bloom stage or while in good vegetative growth.
Wild garlic and onion in crop stubble	4	Apply to new regrowth of wild garlic or onion that occurs in the fall after harvest of other crops.

FALLOW LAND RESTRICTIONS:

- Plant only labeled crops within 29 days following last application.
- Do not apply more than 4 pints per acre per application.
- Do not make more than 2 applications per year.
- Minimum spray interval between applications is 30 days.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

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RANGELAND, ESTABLISHED GRASS PASTURES
(Including Perennial Grasslands Not In Agricultural Production Such As Conservation Reserve Program Acres)

Target Weeds or Woody Plants	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Annual broadleaf weeds Biennial and perennial broadleaf weeds	2 2 to 4	For best results, apply when weeds are small and growing actively before the bud stage. Apply when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks appear. Refer to the "Weeds Controlled" section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher listed rates, even under ideal conditions of application.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment" under "Application Instructions"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the listed broadcast rate and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application Instructions."
Tree Injection Application	See instructions for tree injection application in "Forestry Uses" section.	
Wild garlic and wild onion	4	Make three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.
Broadleaf weed control in newly sprigged coastal bermudagrass	2 to 4	Applications may be made either preemergence or postemergence, Follow "Specific Use Directions" for annual, biennial and perennial broadleaf weed control, above.
Southern wild rose broadcast application Spot treatment	up to 4 8 pints/100 gal of spray	**Broadcast:** Apply in spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment. **Spot treatment:** Apply when foliage is well developed. Thorough coverage is required. Use 8 pints of WHITEOUT 2,4-D plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required. Do no exceed 4 pt per acre per application.
CRP Acres	For program lands such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.	

PASTURE & RANGELAND RESTRICTIONS:
- Do not apply more than 4 pints per acre per application.

- Do not apply more than 4 pints per acre per application for spot treatments.
- Do not make more than 2 applications per year.
- Minimum spray interval between applications is 30 days.
- Pre-Harvest Interval for cut forage for hay is 7 days.
- If grass is to be cut for hay, Agricultural Use requirements for the Worker Protection Standard are applicable.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

NON-CROPLAND AREAS

Such as fencerows, hedgerows, roadsides, drainage ditches, rights-of-way, utility power lines, railroads, airports, and other non-crop areas

Treatment Site Method of Application	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Annual broadleaf weeds	2 to 4	Apply when annual weeds are small and growing actively before the bud stage.
Biennial and perennial broadleaf weeds and susceptible woody plants	4 to 8	Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult to control perennial broadleaf weeds and woody species, tank mix up to 4 qts of WHITEOUT 2,4-D plus 1 to 8 pints of 3 lb/gal Triclopyr herbicide per acre. **For ground application:** (High volume) apply a total spray volume of 100 to 400 gallons per acre; (low volume) apply a total spray volume of 10 to 100 gallons per acre. **For helicopter:** Apply a total spray volume of 5 to 30 gallons per acre.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment" under "Application Instructions"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the listed broadcast rate and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayer under "Application Instructions."
Tree injection application	See instructions for tree injection application in "Forestry Uses" section.	
Southern wild rose broadcast application	up to 4	Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.
Spot treatment	8 pints/100 gal of spray	Apply when foliage is well developed. Thorough coverage is required. Use 8 pints of WHITEOUT 2,4-D plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.

WEED CONTROL RESTRICTIONS AND LIMITATIONS FOR USE IN NON-CROP AREAS:
Postemergence (annual & perennial weeds):

- Do not make more than 2 applications per year.

- Do not apply more than 4 pints per acre per application.
- Minimum spray interval between applications is 30 days.

Postemergence (woody plants):

- Do not make more than 1 application per year.
- Do not apply more than 8 pints per acre per application.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

FORESTRY USES

Forest site preparation, forest roadsides, brush control, established conifer release, including Christmas trees and reforestation areas.

Treatment Site Method of Application	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Annual weeds Biennial and perennial broadleaf weeds and susceptible woody plants	2 to 4 pt/acre 4 to 8 pt/acre	Apply when weeds are small and growing actively before the bud stage. Apply when, biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult to control perennial broadleaf weeds and woody species, use up to 4 qt of WHITEOUT 2,4-D and 1 to 4 qts of 3 lb/gal Triclopyr herbicide per acre. For conifer release, make application in early spring before budbreak of conifers when weeds are small and actively growing.
Spot Treatment to control broadleaf weeds	See instructions for "Spot Treatment" under "Application Instructions"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the listed broadcast rate and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayer under "Application Instructions."
Conifer Release; species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir	3 to 6 pts/acre	To control competing hardwood species such as alder, aspen, birch, hazel, and willow, apply from mid to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground or air equipment, using sufficient spray volume to ensure complete coverage. Because this treatment may cause occasional conifer injury, do not apply if such injury cannot be tolerated.

Forestry Uses cont'd.:

Forest site preparation, forest roadsides, brush control, established conifer release, including Christmas trees and reforestation areas.

Treatment Site Method of Application	WHITEOUT 2,4-D (pt/acre)	Specific Use Directions
Directed Spray; Conifer Plantations including pine	8 pts/100 gal	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in water carrier in a spray volume of 10 to 100 gallons per acre.
Surface of Cut Stumps (May also be used in rangeland, pastures, and noncropland)	1.75 fl oz/gal of water	Apply as soon as possible after cutting trees. Thoroughly soak the entire stump with 2,4-D mixture including cut surface, bark and exposed roots.
Frill and Girdle (May also be used in rangeland, patures, and noncropland)		Cut frills (overlapping V-shaped notches cut downward through the bark in a continuous ring around the base of the tree) using an axe or other suitable tool. Saturate the freshly cut frills with the 2,4-D mixture.
Tree Injection Application (May also be used in rangeland, pastures, and noncropland)	(1 to 2 ml per injection site)	To control and prevent resprouting of unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 ml of undiluted WHITEOUT 2,4-D per inch of trunk diameter as measured at breast height (DBH), approximately 4 1/2 ft above the ground. Injection sites, however, should be as close to the root collar as possible and the injection bit must penetrate the inner bark. Applications may be made throughout the year, but for best results apply between May 15 and October 15. Maples should not be treated during the spring sap flow. For hard to control species such as ash, maple, and dogwood use 2 ml of undiluted WHITEOUT 2,4-D per injection site or double the number of 1 ml injections. Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.

FOREST MANAGEMENT RESTRICTIONS:

Broadcast Application:

- Do not make more than 1 application per year.
- Do not apply more than 8 pints per acre per application.

Injection Application:

- Do not make more than 1 application per year.
- Do not apply more than 2 ml per injection site.

WHITEOUT® 2,4-D
EPA REG. NO. 34704-1032

WHITEOUT 2,4-D contains 0.46 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: Open dumping is prohibited. Do not store this product near fertilizers, seeds, insecticides or fungicides. Do not store near heat or open flame. Re-close all partially used containers by thoroughly tightening screw cap. Absorb any spill with suitable clay absorbent and dispose of as indicated under "Pesticide Disposal."

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

For packages up to 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 56 gallons: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For refillable containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.

WHITEOUT® 2,4-D
EPA REG. NO. 34704-1032

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL AND TO THE EXTENT REQUIRED BY APPLICABLE LAW, BUYER OR USER MUST SEND WRITTEN NOTICE OF ITS CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, P.O. BOX 1286, GREELEY, CO 80632-1286.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

Whiteout is a registered trademark of Loveland Products, Inc.

FORMULATED FOR
LOVELAND PRODUCTS, INC.
P.O. BOX 1286, GREELEY, COLORADO 80632-1286

APPENDIX A.2 - REFERENCE HERBICIDE LABELS - AMINOPYRALID

Specimen Label

Dow AgroSciences™

ForeFront® R&P

Specialty Herbicide

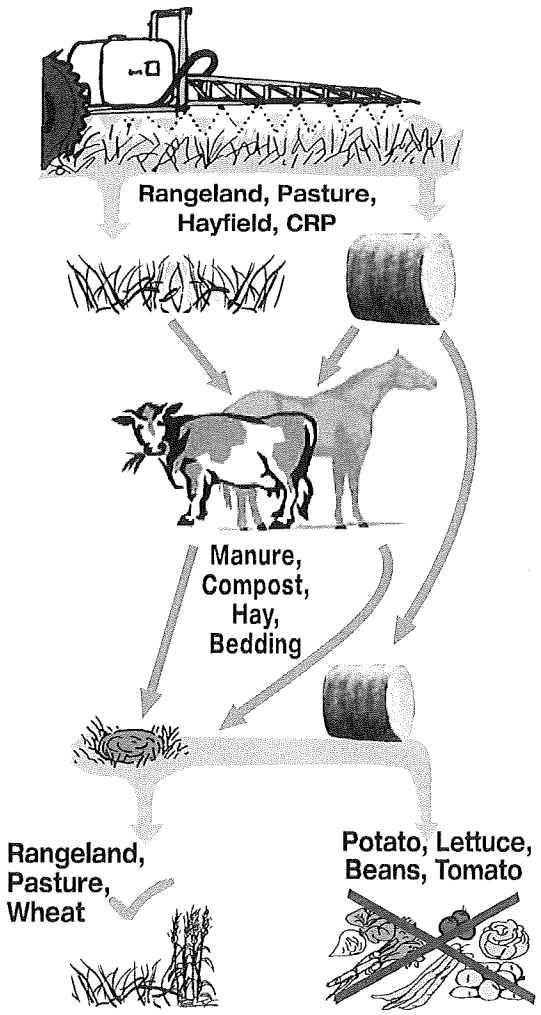
®Trademark of Dow AgroSciences LLC

For control of susceptible weeds and certain woody plants on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, and non-irrigation ditch banks

IMPORTANT ADVISORY TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this product label.
- Carefully read the section ***"Plant Residues or Manure."***
- Manure and urine from animals consuming treated grass or hay may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Inform the recipient of hay or manure from animals grazing pastures or feeding on hay from areas treated with aminopyralid of the label use precautions and restrictions.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions".
  Call [1-(800) 263-1196] Customer Information Group.

Hay and Manure Management



Not For Sale, Distribution, or Use in New York State.

Group	4	HERBICIDE

Active Ingredient:
Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-..... 6.58%
Triisopropanolammonium salt of (2,4-dichlorophenoxy) acetic acid..... 51.06%
Other Ingredients 42.36%
Total..... 100.00%

Acid Equivalents:
aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) – 3.4% - 0.33 lb/gal (40 g/L)
2,4-D [(2,4-dichlorophenoxy) acetic acid] – 27.2% - 2.67 lb/gal (320 g/L)

EPA Reg. No. 62719-524

Keep Out of Reach of Children

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the "Directions for Use" section for information about this standard.

Refer to inside of label booklet for additional precautionary information including Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Precautionary Statements

Hazard to Humans and Domestic Animals

DANGER

Corrosive • Causes Irreversible Eye Damage • Harmful if Swallowed

Do not get in eyes or on clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selections chart.

All mixers, loaders, applicators, flaggers, and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves, when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
- Chemical resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See engineering controls for additional requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)].

User Safety Recommendations

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards

This product is toxic to aquatic invertebrates and may be toxic to fish. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark except as permitted on this label. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters haing limited and less dense weed infestations may not require partial treatments.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not For Sale, Distribution, or Use in New York State.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as natural rubber.
- Protective eyewear
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal.
Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized material prior to use.
Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Non-refillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Storage and Disposal (Cont.)

Refillable containers larger than 5 gallons:
Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers 5 gallons or larger:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tan or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information

ForeFront® R&P specialty herbicide controls broadleaf weeds and certain woody plants on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, and non-irrigation ditch banks,

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites. ForeFront R&P can be used to the waters edge. Do not apply directly to water and take precautions to minimize spray drift onto water.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition et al. v. EPA, C0131C, (W.D. W.A.). For further information, please refer to EPA Web site: http://www.epa/gov/espp.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, or CRP, since these sites receive infrequent pesticide applications.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its recommended rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

This product is not intended for reformulation or repackaging into other end-use products.

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

Pasture and Rangeland Restrictions

- **Preharvest Interval:** Do not cut forage for hay within 7 days of application. For program lands, such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.
- **Maximum seasonal rate:** Apply no more than 84 fl oz (1.75 lbs acid equivalent 2,4-D) per acre per use season
- Use 2 or more gallons of spray solution per acre
- Do not make more than two applications per year
- Do not apply within 30 days of previous application
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable
- **Do not use on grasses grown for hay intended for export.**
- **Do not use on grasses grown for seed production.**
- **Maximum Application Rate:** Do not broadcast apply more than 42 fl oz (2.6 pints) (0.87 lbs acid equivalent) per acre of ForeFront R&P per year. The total amount of ForeFront R&P applied broadcast, as a re-treatment, and/or spot treatment per year must not exceed 42 fl oz (2.6 pints) (0.87 lbs acid equivalent) per acre. Spot treatments may be applied at an equivalent broadcast rate of up to 84 fl oz of ForeFront R&P (1.75 lbs acid equivalent) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Restrictions for Non-Irrigation Canal Ditchbank Application

Postemergence:
Limited to 1 application per season.
Maximum of 42 fl oz (2.6 pints) (0.87 lbs ae)/acre per application.
Minimum of 30 days between applications
Spot treatments may be applied at an equivalent broadcast rate of up to 84 fl oz of ForeFront R&P (1.75 lbs acid equivalent) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance.
Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.). Repeat 3 times and use the average to calculate CFS.

Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

For ditchbank weeds:
Do not allow boom spray to be directed onto water surface.
Do not spray across stream to opposite bank.

For shoreline weeds:
Allow no more than 2 foot overspray onto water.

Use Restrictions

- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- **Do not apply this product on residential or commercial lawns, turf, or ornamental plantings.**
- **Crop Rotation:** Do not rotate to cropland for one year following an application of ForeFront R&P. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Seeding grasses**:
  - **Preemergence:** ForeFront R&P may be applied in the spring or early summer, depending on the target weed species, and grass planted in the fall when conditions are favorable for grass establishment.
  - Postemergence: During the season of establishment, ForeFront R&P should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to ForeFront R&P at this stage of development. ForeFront R&P may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid residues remaining in the soil will adversely affect the legume establishment.
- **Grazing and Haying Restrictions:** Do not harvest forage for hay within 7 days of ForeFront R&P application. Cutting hay too soon after spraying weeds can compromise the weed control. Wait 14 days prior to cutting grass hay to allow for maximum herbicide activity. Do not transfer grazing animals from areas treated with ForeFront R&P to areas where sensitive broadleaf crop occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Plant Residues or Manure:**
  - Do not use aminopyralid-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be spread to areas where commercially grown mushrooms or broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing broadleaf crops.
  - Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid residues in the soil is at level that is not injurious to the crop to be planted.
  - To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses or grasses grown for hay.
- **ForeFront R&P is highly active against many broadleaf plant species.** Do not use this product on areas where loss of desirable broadleaf forage plants, including legumes, cannot be tolerated.
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of ForeFront R&P through movement into the soil. Do not apply ForeFront R&P within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.

Sprayer Clean-Out Instructions
It is recommended that separate spray equipment be used on highly sensitive crops such as tobacco, soybeans, peanuts, and tomatoes. Do not use spray equipment used to apply ForeFront R&P for other applications to land planted to, or to be planted to, crops or desirable sensitive plants, unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply ForeFront R&P should be thoroughly cleaned before reusing to apply any other chemicals as follows.

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Application Methods

Apply the recommended rate of ForeFront R&P as a coarse low-pressure spray. **Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce weed control and increase spray drift potential.**
Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provides better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 42 fl oz (2.6 pints) per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 84 fl oz (5.2 pints) on 50% of the treated field. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Repeat treatments may be made, but the total amount of ForeFront R&P applied must not exceed 42 fl oz (2.6 pints) per acre per year (see comments in the Use Precautions and Restrictions section above on Maximum Application Rate).

Table 1: Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 10.5 by 10.5 yards in size. Mix the amount of ForeFront R&P (fl oz or milliliters) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft. A delivery volume of 0.5 gallons per 1000 sq ft is equivalent to 22 gallons per acre and 2.5 gallons per 1000 sq ft is equivalent to 109 gallons per acre.

Amount of ForeFront R&P per 1000 sq ft to Equal Broadcast Rate			
Broadcast Rate		Amount of ForeFront R&P per 1000 sq ft	
(fl oz/acre)	(pt/acre)	(fl oz)	(mL)
24	1.5	0.55	16.3
32	2	0.74	21.7
42	2.6	0.96	28.5

Note: 1 mL = 1cc and 1 fluid ounce (fl oz) = 29.6 milliliters (mL) = 2 tablespoons = 6 teaspoons

To calculate the amount of ForeFront R&P for areas larger than 1000 sq ft: Multiply the table value (fl oz or milliliters) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (3500 sq ft divided by 1000 sq ft = 3.5).

Mixing Instructions

Mixing with Water

To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the recommended amount of ForeFront R&P and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labeled Use Sites: The addition of a high quality non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5 % volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides

ForeFront R&P at rates of up to 42 fl oz (2.6 pints) per acre may be mixed with labeled rates of other labeled herbicides to broaden the spectrum of weeds controlled or to improve control of certain weeds. ForeFront R&P may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mixing Precautions:

- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See Sprayer Clean-Out instructions.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of ForeFront R&P and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily mix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility agent may resolve mix incompatibility.

Mixing with Sprayable Liquid Fertilizer Solutions

ForeFront R&P is usually compatible with liquid fertilizer solutions. It is anticipated that ForeFront R&P will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank. Use of a compatibility agent is recommended to help obtain and maintain a uniform spray solution during mixing and application. **Note**: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. **Mixing ForeFront R&P in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause injury (such as: yellowing and burning) to the foliage of forage grasses and other vegetation especially in the summer. The addition of a surfactant to fertilizer blends may increase the injury potential.

Use Rates and Timing

Do not use ForeFront R&P if loss of legumes species or other broadleaf species cannot be tolerated.

ForeFront R&P may be applied postemergence as a broadcast spray or as a spot application to control weeds listed on this label; weeds other than those listed may also be controlled by this herbicide. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less-than-favorable growing conditions (e.g., drought stress) or for longer residual control. Best weed control results are obtained when spray volume is sufficient to provide uniform coverage of treated plants. For optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 7 days following application.

ForeFront R&P also provides preemergence control of germinating seeds or emerging seedlings of susceptible weeds and re-growth of certain perennial weeds following application. Weed establishment following ForeFront R&P application will depend upon application rate, season of application, and growing condition.

ForeFront R&P can provide long-term control of weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term broadleaf weed control is most effective where forage grasses are allowed to recover from overgrazing, drought, etc., and compete with weeds.

ForeFront R&P can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by ForeFront R&P, it is important that vegetation management practices, including grazing management, biological control agents, replanting, fertilization, prescribed fire, reseeding with desirable plants, etc., be used to increase the competitiveness of desired forages. Used as part of an integrated management program, ForeFront R&P can serve as a catalyst for rapid improvement of rangeland, permanent grass pasture, and CRP, by alleviating the adverse competitive effect of weeds on the yield and quality of forages and other desirable plant species. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management systems.

Broadleaf Weeds Controlled

The following weeds will be controlled at 1.5 to 2.6 pint/acre. For best results, apply when weeds are actively growing and conditions favorable for plant growth. Use a higher rate in the rate range when growing conditions are less than favorable, when weeds are mature, or when weed foliage is tall and dense or when residual control is important. ForeFront R&P also provides preemergence control of germinating seeds or emerged seedlings of susceptible weeds following application.

Table 2: Broadleaf Weeds Controlled

Weed Species			
Common Name	**Scientific Name**	**Life Cycle*** **	**Plant Family**
Rate Range: 1.5 to 2 pints/acre			
bedstraw	*Galium spp.*	perennial	Rubiaceae
bedstraw, smooth	*Galium mollugo*	perennial	Rubiaceae
carrot, wild*	*Daucus carota*	biennial	Apiaceae
Cinquefoil, hoary	*Potentilla argentea*	perennial	Rosaceae
cinquefoil, sulfur*,**	*Potentilla recta*	perennial	Rosaceae
clover, sweet	*Melilotus officinalis*	biennial	Fabaceae
clover, white	*Trifolium repens*	perennial	Fabaceae
crownvetch*	*Securigera varia*	perennial	Fabaceae
daisy, oxeye*,**	*Leucanthemum vulgare*	perennial	Asteraceae
falsedandelion, Carolina*	*Pyrrhopappus carolinianus*	annual/biennial	Asteraceae
gumweed, curlycup	*Grindelia squarrosa*	biennial	Asteraceae
horsenettle, Carolina*,**	*Solanum carolinense*	perennial	Solanaceae
jimsonweed	*Datura stramonium*	annual	Solanaceae
pokeweed, common	*Phytolacca americana*	perennial	Phytolaccaceae
ragweed, common*,**	*Ambrosia artemisiifolia*	annual	Asteraceae
ragweed, western	*Ambrosia psilostachya*	perennial	Asteraceae
ragwort, tansy*,***	*Senecio jacobaea*	perennial	Asteraceae
starthistle, yellow*,***	*Centaurea solstitialis*	annual	Asteraceae
thistle, bull*,**	*Cirsium vulgare*	biennial	Asteraceae
thistle, musk*,**	*Carduus nutans*	biennial	Asteraceae
thistle, plumeless*,**	*Carduus acanthoides*	biennial	Asteraceae
thistle, scotch	*Onopordum acanthium*	biennial	Asteraceae
tickclover	*Desmodium sp.*	perennial	Fabaceae
vetch, common*	*Vicia sativa*	annual	Fabaceae
woodsorrel, yellow*	*Oxalis stricta*	perennial	Oxalidaceae
wormwood, absinth*,**	*Artemisia absinthium*	perennial	Asteraceae
Rate Range: 2 to 2.6 pints/acre			
actinomeris, wingstem	*Verbesina alternifolia*	perennial	Asteraceae
amaranth, spiny*	*Amaranthus spinosus*	annual	Amaranthaceae
broomweed, annual*	*Amphiachyris dracunculoides*	annual	Asteraceae
burdock, common*,**	*Arctium minus*	biennial	Asteraceae
buttercup, hairy*	*Ranunculus sardous*	perennial	Ranunculaceae
buttercup, tall*,**	*Ranunculus acris*	perennial	Ranunculaceae
camphorweed*	*Heterotheca subaxillaris*	annual	Asteraceae
chickweed, common*	*Stellaria media*	annual	Caryophyllaceae
chicory*	*Cichorium intybus*	perennial	Asteraceae
cocklebur*	*Xanthium strumarium*	annual	Asteraceae

Table 2: Broadleaf Weeds Controlled (Cont.)

Weed Species			
Common Name	**Scientific Name**	**Life Cycle*** **	**Plant Family**
Rate Range: 2 to 2.6 pints/acre (Cont.)			
croton, woolly*,**	*Croton capitatus*	annual	Euphorbiaceae
cudweed, purple	*Gnaphalium purpureum*	annual	Asteraceae
dandelion, common*	*Taraxacum officinale*	perennial	Asteraceae
deadnettle, purple	*Lamium purpureum*	annual/biennial	Lamiaceae
dock, broadleaf*	*Rumex obtusifolius*	perennial	Polygonaceae
dock, curly*	*Rumex crispus*	perennial	Polygonaceae
dogfennel***	*Eupatorium capillifolium*	perennial	Asteraceae
evening primrose, cutleaf*	*Oenothera laciniata*	annual	Asteraceae
false dandelion, Carolina*	*Tragopogon dubius*	biennial	Asteraceae
fiddleneck, common	*Amsinckia intermedia*	annual	Boraginaceae
fireweed	*Epilobium angustifolium*	perennial	Onagracee
fleabane, annual*	*Erigeron annus*	annual	Asteraceae
goldenrod, Canada*	*Solidago canadensis*	perennial	Asteraceae
goldenrod, Missouri*	*Solidago missouriensis*	perennial	Asteraceae
goldenrod, rigid	*Solidago rigida*	perennial	Asteraceae
hawkweed, orange*,**	*Hieracium aurantiacum*	perennial	Asteraceae
hawkweed, yellow*,**	*Hieracium pratense*	perennial	Asteraceae
henbit*	*Lamium amplexicaule*	annual/biennial	Lamiaceae
horseweed*	*Conyza canadensis*	annual	Asteraceae
ironweed, tall	*Vernonia gigantea*	perennial	Asteraceae
ironweed, western	*Vernonia baldwinii*	perennial	Asteraceae
knapweed	*Centaurea sp.*	biennial	Asteraceae
knapweed, brown	*Centaurea jacea*	perennial	Asteraceae
knapweed, diffuse*,**	*Centaurea diffusa*	biennial	Asteraceae
knapweed, Russian*,**	*Acroptilon repens*	perennial	Asteraceae
knapweed, spotted*,**	*Centaurea stoebe*	biennial	Asteraceae
kudzu*,**	*Pueraria montana*	perennial	Fabaceae
lambsquarters, common*	*Chenopodium album*	annual	Chenopodiaceae
lespedeza, annual	*Lespedeza striata*	annual	Fabaceae
lettuce, prickly*	*Lactuca serriola*	annual	Asteraceae
locust	*Robinia pseudoacacia*	perennial	Fabaceae
marshelder, annual*	*Iva annua*	annual	Asteraceae
mayweed, scentless*	*Tripleurospermum perforata*	annual	Asteraceae
mayweed, stinking*,**	*Anthemis cotula*	annual	Asteraceae
medic, black*	*Medicago lupulina*	perennial	Fabaceae
mexicantea	*Dysphania ambrosioides*	annual/ perennial	Chenopodiaceae
mullein****	*Verbascum spp.*	biennial	Scrophulariaceae
mugwort	*Artmeisia vulgaris*	Perennial	Asteraceae
partridgepea*	*Chamaecrista fasciculata*	annual	Fabaceae
plantain, broadleaf*	*Plantago major*	perennial	Plantaginaceae
plantain, buckhorn*	*Plantago lanceolata*	perennial	Plantaginaceae
sicklepod*	*Senna obtusifolia*	annual	Fabaceae
smartweed, Pennsylvania	*Polygonum pensylvanicum*	annual	Polygonaceae
sneezeweed, bitter*	*Helenium amarum*	annual	Asteraceae
soda apple, tropical*,**	*Solanum viarum*	perennial	Solanaceae
sowthistle, perennial*,**	*Sonchus arvensis*	perennial	Asteraceae
sowthistle, prickly*	*Sonchus asper*	annual	Asteraceae
Spanish needles	*Bidens bipinnata*	annual	Asteraceae
starthistle, yellow*,**	*Centaurea solstitialis*	annual	Asteraceae
sunflower, common*	*Helianthus annua*	annual	Asteraceae
teasel*	*Dipsacus spp.*	biennial	Dipsacaceae
thistle, Canada*,**	*Cirsium arvense*	perennial	Asteraceae
vervain, blue*	*Verbena hastata*	perennial	Asteraceae
vervain, hoary*	*Verbena stricta*	perennial	Asteraceae
yarrow, common*	*Achillea millefolium*	perennial	Asteraceae

*These plants are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).
**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).
***Spot treatment at rates up to 84 fl oz (5.2 pints) of ForeFront R&P may be particularly effective against dense patches of perennial broadleaf plants.
**** apply during rosette stage

Susceptible Brush such as Multiflora rose:
Individual Plant Treatment - Use 32 fl oz (0.25% v/v) of ForeFront R&P tank-mixed with Remedy® Ultra at 32 fl oz (0.25% v/v). Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing. Spot treatments may be applied at an equivalent broadcast rate of up to 84 fl oz of ForeFront R&P per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Broadcast - Use 32 to 42 fl oz of ForeFront R&P tank mixed with Remedy Ultra at 16 to 32 fl oz. Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may seriously injure crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note**: Local terrain such as valleys and ravines can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
Indianapolis, IN 46268

Label Code: D02-881-005
Replaces Code: D02-881-004
LOES Number: 010-02122

EPA accepted: 12/4/09

Revisions:

1. Added advisory to prevent injury to desirable plants
2. Added restrictions on grasses grown for hay intended for export, grasses grown for seed, turf, and poisonous plants
3. Revised Spray Drift language.
4. Revised Storage and Disposal

Specimen Label

Dow AgroSciences

Milestone®

SpecialtyHerbicide

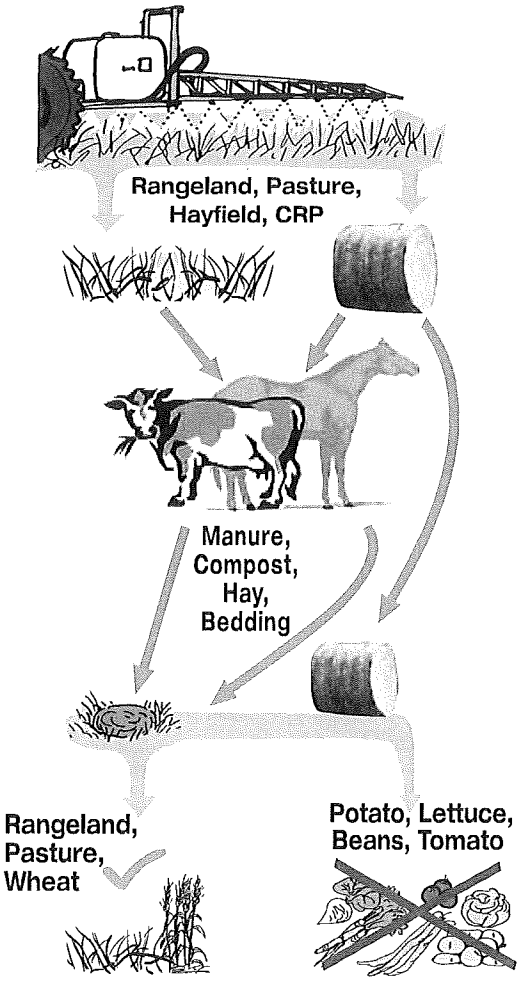
® ™Trademark of Dow AgroSciences LLC

- **For control of susceptible weeds and certain woody plants, including invasive and noxious weeds, on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.**

IMPORTANT ADVISORY TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this product label.
- Carefully read the section ***"Plant Residues or Manure."***
- Manure and urine from animals consuming treated grass or hay may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Inform the recipient of hay or manure from animals grazing pastures or feeding on hay from areas treated with aminopyralid of the label use precautions and restrictions.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions". **Call [1-(800) 263-1196] Customer Information Group.**

Hay and Manure Management



Not For Sale, Distribution, or Use in New York State.

GROUP	4	HERBICIDE

Active Ingredient:
Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-..... 40.6%
Other Ingredients 59.4%
Total 100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) - 21.1% - 2 lb/gal

EPA Reg. No. 62719-519

Keep Out of Reach of Children

CAUTION

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the "Directions for Use" section for information about this standard.

Refer to inside of label booklet for Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Container Use Directions

1 - Tip

Tilt container to angle as shown and fill head to desired amount – use vertical scale for measuring. Container should be closed.

2 - Level

Hold container up-right and check the amount for accuracy. Add or subtract as needed, using pour-back scale as guide.

3 - Dispense

Remove cap on head and pour into sprayer or other devices. No fluid will pour from the main container. Replace cap for storage in sealed condition.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not For Sale, Distribution, or Use in New York State.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material as polyethylene or polyvinyl chloride
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS does not pertain to non-agricultural use on sites, such as, rangeland, permanent grass pastures, or non-cropland. See the Agricultural Use Requirements section below for information where the WPS applies.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures (not harvested for hay) and non-cropland areas, do not enter or allow worker entry into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal. Open dumping is prohibited.
Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized active ingredient prior to use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or

Storage and Disposal (Cont.)

disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Milestone® specialty herbicide may be applied by aerial or ground equipment to controls susceptible broadleaf weeds and certain woody plants, including invasive and noxious weeds on rangeland, permanent grass pastures, CRP acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites. Milestone can be used to the waters edge. Do not apply directly to water and take precautions to minimize spray drift onto water.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications.
- In croplands, use an effective integrated pest management (IPM) program, integrating tillage or other mechanical methods, crop rotation or other cultural control methods into weed control programs whenever practical.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

Maximum Application Rate: On all labeled use sites do not broadcast apply more than 7 fl oz per acre of Milestone per year. The total amount of Milestone applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 7 fl oz per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz per acre of Milestone per annual growing season as a result of broadcast, spot or repeat applications.

- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Milestone within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Read and consider the "Precautions for Avoiding Spray Drift and Spray Drift Advisory" at the end of this label to help minimize the potential for spray drift.
- **Milestone is highly active against many broadleaf plant species.** Do not use this product on areas where loss of broadleaf plants, including legumes, cannot be tolerated.
- **Do not use on grasses grown for hay intended for export.**
- **Do not use on grasses grown for seed production.**
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Do not apply this product on residential or commercial lawns or ornamental plantings.
- Trees adjacent to or in a treated can occasionally be affected by root uptake of Milestone. Do not apply Milestone within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
- **Seeding grasses**:
  - **Preemergence:** Milestone may be applied in the spring or early summer, depending on the target weed species, and grass planted in the fall when conditions are favorable for grass establishment.
  - **Postemergence:** During the season of establishment, Milestone should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor. Most perennial grasses are tolerant to Milestone at this stage of development. Milestone may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid concentration remaining in the soil will adversely affect the legume establishment.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest following application of Milestone at labeled rates. Cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Milestone to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Plant Residues or Manure:**
  - Do not use aminopyralid-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be applied to areas where commercially grown mushrooms or susceptible broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or eaten hay from treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.

- Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
- Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted.
- To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

- **Crop Rotation:** Do not rotate to any crop from rangeland, permanent pasture or CRP acres within one year following treatment. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.

Field Bioassay Instructions: In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses or grasses grown for hay.

Sprayer Clean-Out Instructions

It is recommended to use separate spray equipment on highly sensitive crops such as tobacco, soybeans, peanuts and tomatoes.

Do not use spray equipment used to apply Milestone for other applications to land planted to, or to be planted to, broadleaf plants unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply Milestone should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

- Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce control achieved with the herbicide and increase spray drift potential.

Application Methods

Apply the specified rate of Milestone as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 7 fl oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz per acre of Milestone per annual growing season as a result of broadcast, spot or repeat applications.) Spray volume should be sufficient to thoroughly and uniformly wet weed foliage, but not to the point of runoff. Repeat treatments may be made, but the total amount of Milestone applied must not exceed 7 fl oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated sprayer.

Note: Table 1 below shows mixes for various sprayer outputs in gallons per acre (GPA).

Table 1: Amount of Milestone (in mL) to mix in **1 gallon of water**

Gallons per acre	Milestone amount (in mL) to mix with various application rates		
GPA	**5 fl oz/a**	**7 fl oz/a**	**14 fl oz/a**
20	7.5	10.5	21.0
30	5.0	7.0	14.0
40	3.8	5.3	10.5
50	3.0	4.2	8.4
60	2.5	3.5	7.0
70	2.1	3.0	6.0
80	1.9	2.6	5.3
90	1.7	2.3	4.7
100	1.5	2.1	4.2

Use a syringe to measure cc

Conversions:

1 tsp = 5 mL 30 ml = 1 fluid ounce 1 cc = 1 mL
3 tsp = 1 Tbsp 2 Tbsp = 1 fluid ounce

Table 2: Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 10.5 by 10.5 yards in size. Mix the amount of Milestone (fl oz or milliliters) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft. A delivery volume of 0.5 to 2.5 gallons per 1000 sq ft is equivalent to 22 to 109 gallons per acre.

Table 2: Amount of Milestone per 1000 sq ft to Equal Broadcast Rate

Amount of Milestone per 1000 sq ft to Equal Broadcast Rate		
Broadcast Rate (fl oz/acre)	**Amount of Milestone per 1000 sq ft**	
	(fl oz)	**(Milliliters)**
3	0.069	2
5	0.115	3.4
7	0.161	4.8

Note: 1 fluid ounce (fl oz) = 29.6 milliliters (mL) = 2 tablespoons = 6 teaspoons

To calculate the amount of Milestone for areas larger than 1000 sq ft: Multiply the table value (fl oz or milliliters) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (3500 sq ft divided by 1000 sq ft = 3.5).

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the specified amount of Milestone and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labled Use Sites: The addition of a high quality non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5 % volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides: Milestone at rates of up to 7 fl oz per acre may be mixed with labeled rates of other herbicides registered for application on all labeled use sites. Milestone may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels.

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Milestone and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Mixing with Sprayable Liquid Fertilizer Solutions: Milestone is usually compatible with liquid fertilizer solutions. It is anticipated that Milestone will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank.

Note: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid may be required if Milestone is mixed with a 2,4-D-containing product and liquid fertilizer. **Mixing Milestone and 2,4-D in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Use Rates and Timing

Milestone may be applied post emergence as a broadcast spray or as a spot application to control weeds including, but not limited to, those listed on this label. When a rate range is given use the higher rate to control weeds at advanced growth stages, or under less than favorable growing conditions, or for longer residual control. Best results are obtained when spray volume is sufficient to provide uniform coverage of treated weeds. For optimum uptake and translocation of Milestone, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 14 days following application.

Milestone also provides preemergence control of emerging seedlings of susceptible weeds, and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

Milestone can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

Milestone can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by Milestone, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Weeds Controlled

The following weeds will be controlled with the rates of Milestone indicated below (table 3). For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense, or when residual control is desired. Milestone also provides preemergence control of germinating seeds or seedlings of susceptible weeds following application.

Table 3: Weeds Controlled
Note: Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
amaranth, spiny	*Amaranthus spinosus*	4 to 7	annual	Amaranthaceae
bedstraw	*Galium spp.*	4 to 7	perennial	Rubiaceae
beggarticks	*Bidens spp.*	4 to 7	annual	Asteracea
broomweed, annual	*Amphiachyris dracunculoides*	4 to 7	annual	Asteraceae
burdock, common*, **	*Arctium minus*	4 to 7	biennial	Asteraceae
buttercup, hairy*	*Ranunculus sardous*	4 to 7	annual	Ranunculaceae
buttercup, tall*, *	*Ranunculus acris*	4 to 7	perennial	Ranunculaceae
camelthorn	*Alhagi pseudalhagi*	5 to 7	perennial	Fabaceae
chamomile, scentless	*Matricaria inodora*	4 to 7	annual	Asteraceae
chicory*	*Cichorium intybus*	4 to 6	perennial	Asteraceae
chickweed	*Stellaria media*	7	annual	Caryophyllaceae
cinquefoil, sulfur (1)*, **	*Potentilla recta*	4 to 7	perennial	Rosaceae
cocklebur	*Xanthium strumarium*	3 to 5	annual	Asteraceae

Table 3: Weeds Controlled (Cont.)

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
clover	*Trifolium spp.*	5 to 7	perennial	Fabaceae
croton, tropic	*Croton glandulosus*	3 to 5	annual	Euphorbiaceae
crownvetch	*Securigera varia*	5 to 7	perennial	Fabaceae
cudweed, purple	*Gamochaeta purpurea*	4 to 7	annual	Asteraceae
daisy, oxeye (1)*, **	*Leucanthemum vulgare*	4 to 7	perennial	Asteraceae
dock, curly*	*Rumex crispus*	4 to 7	perennial	Polygonaceae
evening primrose, cutleaf	*Oenothera laciniata*	4 to 7	annual	Onagraceae
fiddleneck, common	*Amsinckia intermedia*	7	annual	Boraginaceae
fireweed	*Epilobium angustifolium*	5 to 7	perennial	Onagraceae
fleabane, flax-leaf	*Conyza bonariensis*	4 to 7	annual	Asteraceae
hawkweed, orange (2)*, **	*Hieracium aurantiacum*	4 to 7	perennial	Asteraceae
hawkweed, yellow (2)*, **	*Hieracium caespitosum*	4 to 7	perennial	Asteraceae
henbit*	*Lamium amplexicaule*	5 to 7	annual/ biennial	Lamiaceae
horsenettle, Carolina**	*Solanum carolinense*	4 to 7	perennial	Solanaceae
horseweed (marestail)	*Conyza canadensis*	4 to 7	annual	Asteraceae
ironweed, tall	*Vernonia gigantea*	5 to 7	perennial	Asteraceae
ironweed, western	*Vernonia baldwinii*	7	perennial	Asteraceae
knapweed, diffuse (3)*, **	*Centaurea diffusa*	5 to 7	biennial/ perennial	Asteraceae
knapweed, Russian (4)*, **	*Acroptilon repens*	5 to 7	perennial	Asteraceae
knapweed, spotted (3)*, **	*Centaurea stoebe*	5 to 7	biennial/ perennial	Asteraceae
knapweeds	*Centaurea spp.*	5 to 7	biennial/ perennial	Asteraceae
kudzu*, **	*Pueraria montana*	7	perennial	Fabaceae
lady's thumb*	*Polygonum persicaria*	3 to 5	annual	Polygonaceae
lambsquarters	*Chenopodium album*	5 to 7	annual	Chenopodiaceae
locust, black	*Robinia pseudoacacia*	7	woody perennial	Fabaceae
locust, honey	*Gleditsia triacanthos*	7	woody perennial	Fabaceae
mayweed, scentless*	*Tripleurospermum perforata*	4 to 7	annual	Asteraceae
mayweed, stinking*, **	*Anthemis cotula*	7	annual	Asteraceae
medic, black*	*Medicago lupulina*	4 to 7	perennial	Fabaceae
mimosa	*Albizia julibrissin*	7	woody perennial	Fabaceae
mullein (5)	*Verbascum spp.*	7	biennial	Scrophulariaceae
oxtongue, bristly	*Picris echioides*	5 to 7	biennial	Asteraceae
ragweed, common**	*Ambrosia artemisiifolia*	3 to 5	annual	Asteraceae
ragweed, western	*Ambrosia psilostachya*	4 to 7	perennial	Asteraceae
ragwort, tansy*, **	*Senecio jacobaea*	5 to 7	perennial	Asteraceae
redbud	*Cercis Canadensis*	7	woody perennial	Fabaceae
rush skeletonweed	*Chondrilla juncea*	5 to 7	perennial	Asteraceae
smartweed, Pennsylvania	*Polygonum pensylvanicum*	3 to 5	annual	Polygonaceae
sneezeweed, bitter	*Helenium amarum*	4 to 7	annual	Asteraceae
soda apple, tropical (6)*, **	*Solanum viarum*	5 to 7	perennial	Solanaceae
sowthistle, perennial*, **	*Sonchus arvensis*	3 to 5	perennial	Asteraceae
spanishneedles	*Bidens bipinnata*	4 to 7	annual	Asteraceae
St. Johnswort, common	*Hypericum perforatum*	5 to 7	perennial	Clusiaceae
star-thistle, Malta (7) *,**	*Centaurea melitensis*	3 to 5	annual	Asteraceae
starthirstle, purple (7) *.**	*Centaurea calcitrapa*	3 to 5	biennial	Asteraceae
star thistle, yellow (7)*, **	*Centaurea solstitialis*	3 to 5	annual	Asteraceae
sunflower, common	*Helianthus annuus*	4 to 7	annual	Asteraceae
teasel	*Dipsacus spp.*	4 to 7	biennial	Dipsacaceae
thistle, artichoke	*Cynara cardunculus*	5 to 7	perennial	Asteracea
thistle, bull (8)*, **	*Cirsium vulgare*	3 to 5	biennial	Asteraceae
thistle, Canada (9)*, **	*Cirsium arvense*	5 to 7	perennial	Asteraceae
thistle, woolly distaff	*Carthamus lanatus*	4 to 7	annual	Asteraceae
thistle, Italian	*Carduus pycnocephalus*	7	annual	Asteraceae
thistle, musk (8)*, **	*Carduus nutans*	3 to 5	biennial	Asteraceae
thistle, plumeless (8)*, **	*Carduus acanthoides*	3 to 5	biennial	Asteraceae
thistle, Scotch*, **	*Onopordum acanthium*	5 to 7	biennial	Asteracea

Table 3: Weeds Controlled (Cont.)

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
vetch	*Vicia spp.*	3 to 7	perennial	Fabaceae
wisteria	*Wisteria brachybotris*	7	woody perennial	Fabaceae
wormwood, absinth(10)*, **	*Artemisia absinthium*	6 to 7	perennial	Asteraceae
yarrow, common	*Achillea millefolium*	7	perennial	Asteraceae

*Invasive plants are introduced species that are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).
**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).

(1) **Sulfur cinquefoil or oxeye daisy:** Apply Milestone at 4 to 6 fl oz per acre to plants in the prebud stage of development.
(2) **Orange or yellow hawkweeds:** Apply Milestone at 4 to 7 fl oz per acre to plants in the bolting stage of development.
(3) **Diffuse and spotted knapweeds:** Apply Milestone at 5 to 7 fl oz per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
(4) **Russian knapweed:** Apply Milestone at 5 to 7 fl oz per acre to plants in the spring and summer to plants from early bud to flowering stage and to dormant plants in the fall.
(5) **Mullein:** Apply to the rosette stage
(6) **Tropical soda apple:** Apply Milestone at 5 to 7 fl oz per acre at any growth stage, but application by flowering will reduce seed production potential.
(7) **Malta, purple, and Yellow starthistle:** Apply Milestone at 3 to 5 fl oz per acre to plants at the rosette through bolting growth stages.
(8) **Bull, musk, and plumeless thistles:** Apply Milestone at 3 to 5 fl oz per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 4 to 5 fl oz when plants are at the late bolt through early flowering growth stages. 2,4-D at 1 lb ae/acre should be tank-mixed with Milestone starting at the late bud stages
(9) **Canada thistle:** Apply Milestone at 5 to 7 fl oz per acre either in the spring to plants in the prebud to early bud growth stage – the goal is to insure all plants have emerged. Applications are also effective in the fall before a killing frost.
(10) **Absinth wormwood:** Apply 6 to 7 fl oz per acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's specified minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain such as valleys and ravines can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-879-003
Replaces Label: D02-879-002
LOES Number: 010-02112

EPA accepted 11/19/09

Revisions:

1. Added advisory to prevent injury to desirable plants
2. Added restrictions on grasses grown for hay intended for export, grasses grown for seed, turf, and poisonous plants
3. Increased REI to 48 hours
4. Modified boom length language
5. Revised Storage and Disposal

Specimen Label

Dow AgroSciences

Milestone® VM

Specialty Herbicide

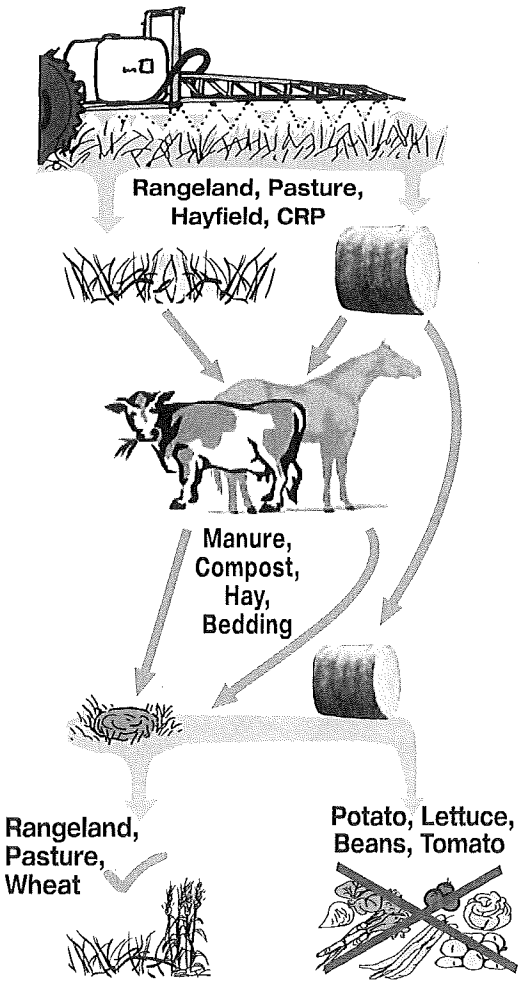
®Trademark of Dow AgroSciences LLC

For control of susceptible weeds and certain woody plants, including many invasive and noxious weeds, on non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.

IMPORTANT ADVISORY TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this product label.
- Carefully read the section ***"Plant Residues or Manure."***
- Manure and urine from animals consuming treated grass or hay may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Inform the recipient of hay or manure from animals grazing pastures or feeding on hay from areas treated with aminopyralid of the label use precautions and restrictions.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions".
  Call [1-(800) 263-1196] Customer Information Group.

Hay and Manure Management



Not For Sale, Distribution, or Use in New York State.

GROUP	4	HERBICIDE

Active Ingredient:
Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-..... 40.6%
Other Ingredients 59.4%
Total 100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) - 21.1% - 2 lb/gal

EPA Reg. No. 62719-537

Keep Out of Reach of Children

CAUTION

Refer to inside of label booklet for Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

1 - Tip

Tilt container to angle as shown and fill head to desired amount – use vertical scale for measuring. Container should be closed.

2 - Level

Hold container up-right and check the amount for accuracy. Add or subtract as needed, using pour-back scale as guide.

3 - Dispense

Remove cap on head and pour into sprayer or other devices. No fluid will pour from the main container. Replace cap for storage in sealed condition.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

First Aid (Cont.)

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not For Sale, Distribution, or Use in New York State.

Entry Restrictions: For applications on non-cropland areas, do not enter or allow worker entry into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal. Open dumping is prohibited.
Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized active ingredient prior to use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in

Storage and Disposal (Cont.)

a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Milestone® VM specialty herbicide may be applied by aerial or ground equipment to control susceptible weeds and certain woody plants, including invasive and noxious weeds on non-cropland areas including industrial sites, rights-of-way (including roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites. Milestone VM can be used to the waters edge. Do not apply directly to water and take precautions to minimize spray drift onto water.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on non-cropland sites since these sites receive infrequent pesticide applications.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

- **This product is not intended for reformulation or repackaging into other end-use products.**
- **Maximum Application Rate:** On all labeled use sites do not broadcast apply more than 7 fl oz per acre of Milestone VM per year. The total amount of Milestone VM applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 7 fl oz per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone VM) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz per acre of Milestone VM) per annual growing season as a result of broadcast, spot or repeat applications.
- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Milestone VM within 50 feet of a border downwind (in direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Read and consider the "Precautions for Avoiding Spray Drift and Spray Drift Advisory" at the end of the label to help minimize the potential for spray drift.
- **Milestone VM is highly active against many broadleaf plant species.** Do not use this product on areas where loss of desirable broadleaf plants, including legumes, cannot be tolerated.
- **Do not use on grasses grown for hay intended for export.**
- **Do not use on grasses grown for seed production.**
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- **Do not apply this product on residential or commercial lawns, turf, or ornamental plantings.**
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of Milestone VM. Do not apply Milestone VM within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
- **Seeding grasses**:
  - **Preemergence:** Milestone VM may be applied in the spring or early summer, depending on the target weed species, and grass planted the following fall or winter when appropriate for the grass species being planted.
  - **Postemergence:** During the season of establishment, Milestone VM should be applied only after perennial grasses are well established (have developed a secondary root system and are vigorous. Most perennial grasses are tolerant to Milestone VM at this stage of development. Milestone VM may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- **Seeding Legumes or Susceptible Wildflowers:** Do not plant legumes or susceptible wildflowers until a soil bioassay has been conducted to determine if residues of Milestone VM remaining in the soil will adversely affect establishment of legumes and wildflowers.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or hay harvest following application of Milestone VM at labeled rates. Cutting hay too soon after spraying weeds will reduce weed control . Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Milestone VM to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough Milestone VM to cause injury to broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Plant Residues or Manure:**
  - Do not use Milestone VM-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days as compost or mulch that will be applied to areas where commercially grown mushrooms or susceptible broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.
  - Manure from animals that have grazed forage or eaten hay harvested from Milestone VM-treated areas within the previous 3 days may only be spread on pasture grasses, grass grown for seed, and wheat.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from Milestone VM-treated areas until an adequately sensitive field bioassay is conducted to determine that the Milestone VM residues in the soil is at a level that is not injurious to the crop to be planted.

- To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of Milestone VM in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.

- **Crop Rotation:** Do not rotate non-cropland to cropland for one year following an application of Milestone VM. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Field Bioassay Instructions:** In a representative section of an area previously treated with this product, plant short test rows of the intended species across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time after application and before the planting of the intended species. Observe the seeded species for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the intended seeded species may be planted. If herbicidal activity is observed, do not plant the field to the intended seeded species, plant only to wheat, forage grasses, native grasses or grasses grown for hay.

Sprayer Clean-Out Instructions
It is recommended that separate spray equipment be used on highly sensitive crops such as tobacco, soybeans, peauts and tomatoes. Do not use spray equipment used to apply Milestone VM for other applications to land planted to, or to be planted to, broadleaf plants unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply Milestone VM should be thoroughly cleaned before reusing to apply any other chemicals as follows:
1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Application Methods

Apply the specified rate of Milestone VM as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provides better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 7 fl oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems but not to runoff.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (14 fl oz of Milestone VM) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (7 fl oz per acre of Milestone VM) per annual growing season as a result of broadcast, spot or repeat applications. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage but not to the point of runoff.

Repeat treatments may be made, but the total amount of Milestone VM applied must not exceed 7 fl oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated sprayer.

Note: Table 1 below shows mixes for various sprayer outputs in gallons per acre (GPA).

Table 1: Amount of Milestone VM herbicide **(in mL)** to mix in **1 gallon of water**

Milestone VM amount (in mL) to mix with various application rates

GPA	5 fl oz/a	7 fl oz/a	14 fl oz/a
20	7.5	10.5	21.0
30	5.0	7.0	14.0
40	3.8	5.3	10.5
50	3.0	4.2	8.4
60	2.5	3.5	7.0
70	2.1	3.0	6.0
80	1.9	2.6	5.3
90	1.7	2.3	4.7
100	1.5	2.1	4.2

Use a syringe to measure cc

Conversions:
1 tsp = 5 mL 30 mL = 1 fluid ounce 1 cc = 1 mL
3 tsp = 1 Tbsp 2 Tbsp = 1 fluid ounce

Table 2: Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 31.5 ft by 31.5 ft (10.5 by 10.5 yards) in size. Mix the amount of Milestone VM (fl oz or milliliters) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft. A delivery volume of 0.5 to 2.5 gallons per 1000 sq ft is equivalent to 22 to 109 gallons per acre.

Amount of Milestone VM per 1000 sq ft to Equal Broadcast Rate

Broadcast Rate (fl oz/acre)	Amount of Milestone VM per 1000 sq ft	
	(fl oz)	(Milliliters)
3	0.069	2
5	0.115	3.4
7	0.161	4.8

Note: 1 mL = 1 cc and 1 fluid ounce (fl oz) = 29.6 milliliters (mL) = 2 tablespoons = 6 teaspoons

To calculate the amount of Milestone VM for areas larger than 1000 sq ft: Multiply the table value (fl oz or milliliters) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (3500 sq ft divided by 1000 sq ft = 3.5).

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the specified amount of Milestone and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labled Use Sites: For post emergent applications, a non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5 % volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides: Milestone at rates of up to 7 fl oz per acre may be mixed with labeled rates of other herbicides registered for application on all labeled use sites. Milestone may be applied in tank

mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels.

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Milestone and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Mixing with Sprayable Liquid Fertilizer Solutions: Milestone is usually compatible with liquid fertilizer solutions. It is anticipated that Milestone will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank.

Note: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid may be required if Milestone is mixed with a 2,4-D-containing product and liquid fertilizer. **Mixing Milestone and 2,4-D in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Milestone VM may be applied to all labeled use sites as an aerial or ground broadcast treatment, as a spot or high volume foliar application, to control susceptible weeds and certain woody plants, including invasive weeds (see Weeds Controlled section).

Do not use Milestone VM if loss of legumes species or other broadleaf species cannot be tolerated.

Milestone VM may be applied post emergence as a broadcast spray or as a spot application to control weeds including, but not limited to, those listed on this label. When a rate range is given use the higher rate to control weeds at advanced growth stages, or under less than favorable growing conditions, or for longer residual control. Best results are obtained when spray volume is sufficient to provide uniform coverage of treated weeds. For optimum uptake and translocation of Milestone, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 14 days following application.

Milestone VM also provides preemergence control of emerging seedlings of susceptible weeds, and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

Milestone VM can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

Milestone VM can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by Milestone VM, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Weeds Controlled

The following weeds will be controlled with the rates of Milestone VM indicated in table 3. For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense or when residual control is desired. Milestone VM also provides preemergence control of germinating seeds and control of emerged seedlings of susceptible weeds following application.

Table 3: Weeds Controlled
Note: Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
amaranth, spiny	*Amaranthus spinosus*	4 to 7	annual	Amaranthaceae
bedstraw	*Galium spp.*	4 to 7	perennial	Rubiaceae
beggarticks	*Bidens spp.*	4 to 7	annual	Asteracea
broomweed, annual	*Amphiachyris dracunculoides*	4 to 7	annual	Asteraceae
burdock, common*, **	*Arctium minus*	4 to 7	biennial	Asteraceae
buttercup, hairy*	*Ranunculus sardous*	4 to 7	annual	Ranunculaceae
buttercup, tall*, **	*Ranunculus acris*	4 to 7	perennial	Ranunculaceae
camelthorn	*Alhagi pseudalhagi*	5 to 7	perennial	Fabaceae
chamomile, scentless	*Matricaria inodora*	4 to 7	annual	Asteraceae
chicory*	*Cichorium intybus*	4 to 7	perennial	Asteraceae
chickweed	*Stellaria media*	7	annual	Caryophyllaceae

Table 3: Weeds Controlled (Cont.)

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
cinquefoil, sulfur (1)*, **	*Potentilla recta*	4 to 7	perennial	Rosaceae
cocklebur	*Xanthium strumarium*	3 to 5	annual	Asteraceae
clover	*Trifolium spp.*	5 to 7	perennial	Fabaceae
croton, tropic	*Croton glandulosus*	3 to 5	annual	Euphorbiaceae
crownvetch	*Securigera varia*	5 to 7	perennial	Fabaceae
cudweed, purple	*Gamochaeta purpurea*	4 to 7	annual	Asteraceae
daisy, oxeye (1)*, **	*Leucanthemum vulgare*	4 to 7	perennial	Asteraceae
dock, curly*	*Rumex crispus*	4 to 7	perennial	Polygonaceae
evening primrose, cutleaf	*Oenothera laciniata*	4 to 7	annual	Onagraceae
fiddleneck, common	*Amsinckia intermedia*	7	annual	Boraginaceae
fireweed	*Epilobium angustifolium*	5 to 7	perennial	Onagraceae
fleabane, flax-leaf	*Conyza bonariensis*	4 to 7	annual	Asteraceae
hawkweed, orange (2)*, **	*Hieracium aurantiacum*	4 to 7	perennial	Asteraceae
hawkweed, yellow (2)*, **	*Hieracium caespitosum*	4 to 7	perennial	Asteraceae
henbit*	*Lamium amplexicaule*	5 to 7	annual/ biennial	Lamiaceae
horsenettle, Carolina**	*Solanum carolinense*	4 to 7	perennial	Solanaceae
horseweed (marestail)	*Conyza canadensis*	4 to 7	annual	Asteraceae
ironweed, tall	*Vernonia gigantea*	5 to 7	perennial	Asteraceae
ironweed, western	*Vernonia baldwinii*	7	perennial	Asteraceae
knapweed, diffuse (3)*, **	*Centaurea diffusa*	5 to 7	biennial/ perennial	Asteraceae
knapweed, Russian (4)*, **	*Acroptilon repens*	5 to 7	perennial	Asteraceae
knapweed, spotted (3)*, **	*Centaurea stoebe*	5 to 7	biennial/ perennial	Asteraceae
knapweeds	*Centaurea spp.*	5 to 7	biennial/ perennial	Asteraceae
kudzu*, **	*Pueraria montana*	7	perennial	Fabaceae
lady's thumb*	*Polygonum persicaria*	3 to 5	annual	Polygonaceae
lambsquarters	*Chenopodium album*	5 to 7	annual	Chenopodiaceae
lespedeza, annual	*Lespedeza striata*	5 to 7	annual	Fabaceae
locust, black	*Robinia pseudoacacia*	7	woody perennial	Fabaceae
locust, honey	*Gleditsia triacanthos*	7	woody perennial	Fabaceae
mayweed, scentless*	*Tripleurospermum perforata*	4 to 7	annual	Asteraceae
mayweed, stinking*, **	*Anthemis cotula*	7	annual	Asteraceae
medic, black*	*Medicago lupulina*	4 to 6	perennial	Fabaceae
mimosa	*Albizia julibrissin*	7	woody perennial	Fabaceae
mullein (5)	*Verbascum spp.*	7	biennial	Scrophulariaceae
oxtongue, bristly	*Picris echioides*	5 to 7	biennial	Asteraceae
ragweed, common**	*Ambrosia artemisiifolia*	3 to 5	annual	Asteraceae
ragweed, western	*Ambrosia psilostachya*	4 to 7	perennial	Asteraceae
ragwort, tansy*, **	*Senecio jacobaea*	5 to 7	perennial	Asteraceae
redbud	*Cercis Canadensis*	7	woody perennial	Fabaceae
rose	*Rosa spp.*	7	Woody perennial	Rosaceae
rush skeletonweed	*Chondrilla juncea*	5 to 7	perennial	Asteraceae
smartweed, Pennsylvania	*Polygonum pensylvanicum*	3 to 5	annual	Polygonaceae
sneezeweed, bitter	*Helenium amarum*	4 to 7	annual	Asteraceae
soda apple, tropical (6)*, **	*Solanum viarum*	5 to 7	perennial	Solanaceae
sowthistle, perennial*, **	*Sonchus arvensis*	3 to 5	perennial	Asteraceae
spanishneedles	*Bidens bipinnata*	4 to 7	annual	Asteraceae
star-thistle, Malta (7) *,**	*Centaurea melitensis*	3 to 5	annual	Asteraceae
starthirstle, purple (7) *.**	*Centaurea calcitrapa*	3 to 5	biennial	Asteraceae
star thistle, yellow (7)*, **	*Centaurea solstitialis*	3 to 5	annual	Asteraceae
St. Johnswort, common	*Hypericum perforatum*	5 to 7	perennial	Clusiaceae

Table 3: Weeds Controlled (Cont.)

Common Name	Scientific Name	Rate Range (fl oz/acre)	Life Cycle	Plant Family
sunflower, common	*Helianthus annuus*	4 to 7	annual	Asteraceae
teasel	*Dipsacus spp.*	4 to 7	biennial	Dipsacaceae
thistle, artichoke	*Cynara cardunculus*	5 to 7	perennial	Asteracea
thistle, bull (8)*, **	*Cirsium vulgare*	3 to 5	biennial	Asteraceae
thistle, Canada (9)*, **	*Cirsium arvense*	5 to 7	perennial	Asteraceae
thistle, woolly distaff	*Carthamus lanatus*	4 to 7	annual	Asteraceae
thistle, Italian	*Carduus pycnocephalus*	7	annual	Asteraceae
thistle, musk (8)*, **	*Carduus nutans*	3 to 5	biennial	Asteraceae
thistle, plumeless (8)*, **	*Carduus acanthoides*	3 to 5	biennial	Asteraceae
thistle, Scotch*, **	*Onopordum acanthium*	5 to 7	biennial	Asteracea
vetch	*Vicia spp.*	3 to 7	perennial	Fabaceae
wisteria	*Wisteria brachybotris*	7	woody perennial	Fabaceae
wormwood, absinth(10)*, **	*Artemisia absinthium*	6 to 7	perennial	Asteraceae
yarrow, common	*Achillea millefolium*	7	perennial	Asteraceae

*Invasive plants are introduced species that are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).
**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).

(1) **Sulfur cinquefoil or oxeye daisy:** Apply Milestone at 4 to 6 fl oz per acre to plants in the prebud stage of development.
(2) **Orange or yellow hawkweeds:** Apply Milestone at 4 to 7 fl oz per acre to plants in the bolting stage of development.
(3) **Diffuse and spotted knapweeds:** Apply Milestone at 5 to 7 fl oz per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
(4) **Russian knapweed:** Apply Milestone at 5 to 7 fl oz per acre to plants in the spring and summer to plants from early bud to flowering stage and to dormant plants in the fall.
(5) **Mullein**: Apply to the rosette stage
(6) **Tropical soda apple:** Apply Milestone at 5 to 7 fl oz per acre at any growth stage, but application by flowering will reduce seed production potential.
(7) **Malta, purple, and Yellow starthistle:** Apply Milestone at 3 to 5 fl oz per acre to plants at the rosette through bolting growth stages.
(8) **Bull, musk, and plumeless thistles:** Apply Milestone at 3 to 5 fl oz per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 4 to 5 fl oz when plants are at the late bolt through early flowering growth stages. 2,4-D at 1 lb ae/acre should be tank-mixed with Milestone starting at the late bud stages
(9) **Canada thistle:** Apply Milestone at 5 to 7 fl oz per acre either in the spring to plants in the prebud to early bud growth stage – the goal is to insure all plants have emerged. Applications are also effective in the fall before a killing frost.
(10) **Absinth wormwood:** Apply 6 to 7 fl oz per acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be reduced by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's specified minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of the rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

- **Pressure** - Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note**: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
Indianapolis, IN 46268

Label Code: D02-880-003
Replaces Label: D02-880-002
LOES Number: 010-02121

EPA accepted 12/4/09

Revisions:

1. Added advisory and graphics to prevent injury to desirable plants
2. Added restrictions on grasses grown for hay intended for export, grasses grown for seed, turf, and poisonous plants
3. Revised Storage and Disposal

Specimen Label

Dow AgroSciences™

GrazonNext®

Specialty Herbicide

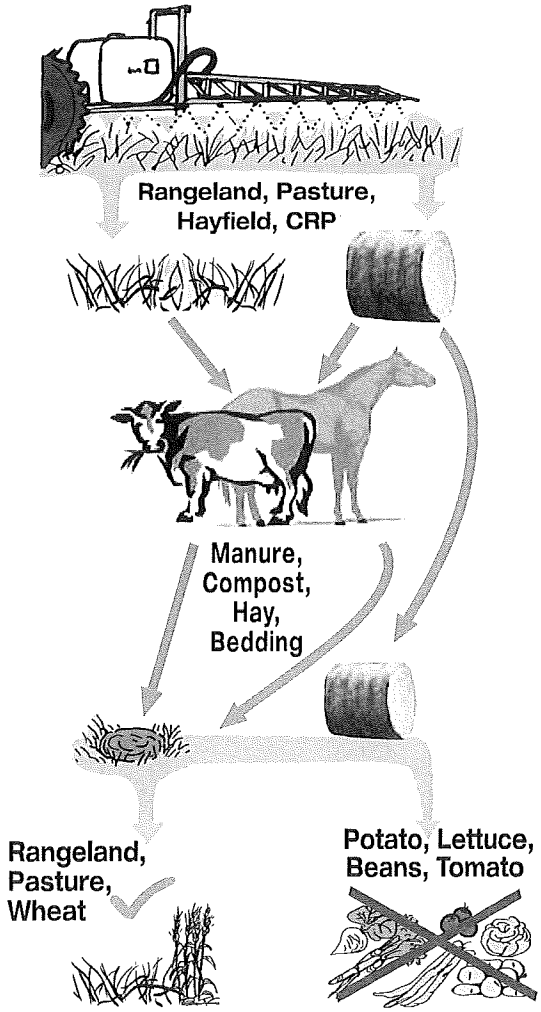
®Trademark of Dow AgroSciences LLC

For control of broadleaf weeds and certain woody plants on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres and wildlife management areas in these sites.

IMPORTANT ADVISORY TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this product label.
- Carefully read the section ***"Plant Residues or Manure."***
- Manure and urine from animals consuming treated grass or hay may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Inform the recipient of hay or manure from animals grazing pastures or feeding on hay from areas treated with aminopyralid of the label use precautions and restrictions.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions".
  Call [1-(800) 263-1196] Customer Information Group.

Hay and Manure Management



Not For Sale, Distribution, or Use in New York State.

Group	4	HERBICIDE

Active Ingredient:
Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-.....6.58%
Triisopropanolammonium salt of (2,4-dichlorophenoxy) acetic acid.....51.06%
Other Ingredients.....42.36%
Total.....100.00%

Acid Equivalents:
aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) – 3.4% - 0.33 lb/gal (40 g/L)
2,4-D [(2,4-dichlorophenoxy) acetic acid] – 27.2% - 2.67 lb/gal (320 g/L)

EPA Reg. No. 62719-587

Keep Out of Reach of Children

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the "Directions for Use" section for information about this standard.

Refer to inside of label booklet for Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

®Trademark of Dow AgroSciences LLC

Precautionary Statements

Hazard to Humans and Domestic Animals

DANGER

Corrosive • Causes Irreversible Eye Damage • Harmful if Swallowed

Do not get in eyes or on clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selections chart.

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Protective eyewear
- Chemical-resistant gloves made of any waterproof material such as natural rubber
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice. **If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Mixing and Loading: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Care should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not For Sale, Distribution, or Use in New York State.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
- Coveralls
- Chemical-resistant gloves made of any waterproof material such as natural rubber.
- Protective eyewear
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures, do not enter or allow worker entry into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal.
Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized material prior to use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information

GrazonNext® specialty herbicide controls broadleaf weeds and certain woody plants on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres and wildlife management areas in these sites.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites. GrazonNext can be used to the waters edge. Do not apply directly to water and take precautions to minimize spray drift onto water.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, or CRP, since these sites receive infrequent pesticide applications.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its recommended rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

- **This product is not intended for reformulation or repackaging into other end-use products.**
- **Maximum Application Rate:** Do not broadcast apply more than 42 fl oz (2.6 pints) per acre of GrazonNext per year. The total amount of GrazonNext applied broadcast, as a re-treatment, and/or spot treatment per year must not exceed 42 fl oz (2.6 pints) per acre. Spot treatments may be applied at an equivalent broadcast rate of up to 84 fl oz of GrazonNext per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.
- **Avoiding Injury to Non-Target Plants:** Do not aerially apply GrazonNext within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift since very small quantities of spray may seriously injure crops. Read and consider the Precautions for Avoiding Spray Drift and Spray Drift Advisory at the end of this label to help minimize the potential for spray drift.
- **Do not use on grasses grown for hay intended for export.**
- **Do not use on grasses grown for seed production.**
- GrazonNext **is highly active against many broadleaf plant species.** Do not use this product on areas where loss of desirable broadleaf forage plants, including legumes, cannot be tolerated.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- **Do not apply this product on residential or commercial lawns, turf, or ornamental plantings.**
- Trees adjacent to or in a treated area can occasionally be affected by root uptake of GrazonNext through movement into the soil. Do not apply GrazonNext within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
- **Crop Rotation:** Do not rotate non-cropland to cropland for one year following an application of GrazonNext. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Seeding grasses:**
  - **Preemergence:** GrazonNext may be applied in the spring or early summer, depending on the target weed species, and grass planted in the fall when conditions are favorable for grass establishment.
  - Postemergence: During the season of establishment, GrazonNext should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to GrazonNext at this stage of development. GrazonNext may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid residues remaining in the soil will adversely affect the legume establishment.
- **Grazing and Haying Restrictions:** Do not harvest forage for hay within 7 days of GrazonNext application. Cutting hay too soon after spraying

weeds can compromise the weed control. Wait 14 days prior to cutting grass hay to allow for maximum herbicide activity. Do not transfer grazing animals from areas treated with GrazonNext to areas where sensitive broadleaf crop occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.

- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Plant Residues or Manure:**
  - Do not use aminopyralid-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be spread to areas where commercially grown mushrooms or broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing broadleaf crops.
  - Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid residues in the soil is at level that is not injurious to the crop to be planted.
  - To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses or grasses grown for hay.

Sprayer Clean-Out Instructions
It is recommended that separate spray equipment be used on highly sensitive crops such as tobacco, soybeans, peanuts, and tomatoes. Do not use spray equipment used to apply GrazonNext for other applications to land planted to, or to be planted to, crops or desirable sensitive plants, unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply GrazonNext should be thoroughly cleaned before reusing to apply any other chemicals as follows.

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Application Methods

Apply the recommended rate of GrazonNext as a coarse low-pressure spray. **Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce weed control and increase spray drift potential.**
Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provides better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 42 fl oz (2.6 pints) per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 84 fl oz (5.2 pints) on 50% of the treated field. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Repeat treatments may be made, but the total amount of GrazonNext applied must not exceed 42 fl oz (2.6 pints) per acre per year (see comments in the Use Precautions and Restrictions section above on Maximum Application Rate).

Table 1: Amount of GrazonNext herbicide **(in fl oz)** to mix in **3 gallon of water**

GrazonNext Amount (In fl oz) To Mix In 3 Gal Of Water With Various Application Rates

GPA	24 fl oz/A	32 fl oz/A	42 fl oz/A
20	3.6	4.8	6.3
30	2.4	3.2	4.2
40	1.8	2.4	3.2
50	1.4	1.9	2.5
60	1.2	1.6	2.1
70	1.0	1.4	1.8
80	0.9	1.2	1.6
90	0.8	1.1	1.4
100	0.7	1.0	1.3

Table 2: Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 10.5 by 10.5 yards in size. Mix the amount of GrazonNext (fl oz or milliliters) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft. A delivery volume of 0.5 gallons per 1000 sq ft is equivalent to 22 gallons per acre and 2.5 gallons per 1000 sq ft is equivalent to 109 gallons per acre.

Amount of GrazonNext per 1000 sq ft to Equal Broadcast Rate			
Broadcast Rate		Amount of GrazonNext per 1000 sq ft	
(fl oz/acre)	(pt/acre)	(fl oz)	(mL)
24	1.5	0.55	16.3
32	2	0.74	21.7
42	2.6	0.96	28.5

Note: 1 mL = 1cc and 1 fluid ounce (fl oz) = 29.6 milliliters (mL) = 2 tablespoons = 6 teaspoons

To calculate the amount of GrazonNext for areas larger than 1000 sq ft: Multiply the table value (fl oz or milliliters) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (3500 sq ft divided by 1000 sq ft = 3.5).

Mixing Instructions

Mixing with Water
To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the recommended amount of GrazonNext and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labled Use Sites: The addition of a high quality non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5 % volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides
GrazonNext at rates of up to 42 fl oz (2.6 pints) per acre may be mixed with labeled rates of other labeled herbicides to broaden the spectrum of weeds controlled or to improve control of certain weeds. GrazonNext may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of

application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mixing Precautions:

- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See Sprayer Clean-Out instructions.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of GrazonNext and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily mix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility agent may resolve mix incompatibility.

Mixing with Sprayable Liquid Fertilizer Solutions
GrazonNext is usually compatible with liquid fertilizer solutions. It is anticipated that GrazonNext will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank. Use of a compatibility agent is recommended to help obtain and maintain a uniform spray solution during mixing and application. **Note:** The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. **Mixing GrazonNext in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Use Rates and Timing

Do not use GrazonNext if loss of legumes species or other broadleaf species cannot be tolerated.

GrazonNext may be applied postemergence as a broadcast spray or as a spot application to control weeds listed on this label; weeds other than those listed may also be controlled by this herbicide. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less-than-favorable growing conditions (e.g., drought stress) or for longer residual control. Best weed control results are obtained when spray volume is sufficient to provide uniform coverage of treated plants. For optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 7 days following application.

GrazonNext also provides preemergence control of germinating seeds or emerging seedlings of susceptible weeds and re-growth of certain perennial weeds following application. Weed establishment following GrazonNext application will depend upon application rate, season of application, and growing condition.

GrazonNext can provide long-term control of weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term broadleaf weed control is most effective where forage grasses are allowed to recover from overgrazing, drought, etc., and compete with weeds.

GrazonNext can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by GrazonNext, it is important that vegetation management practices, including grazing management, biological control agents, replanting, fertilization, prescribed fire, reseeding with desirable plants, etc., be used to increase the competitiveness of desired forages. Used as part of an integrated management program, GrazonNext can serve as a catalyst for rapid improvement of rangeland, permanent grass pasture, and CRP, by alleviating the adverse competitive effect of weeds on the yield and quality of forages and other desirable plant species. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management systems.

Broadleaf Weeds Controlled

The following weeds will be controlled at 1.5 to 2.6 pint/acre. For best results, apply when weeds are actively growing and conditions are favorable for plant growth. Use a higher rate in the rate range when growing conditions are less than favorable, when weeds are mature, when weed foliage is tall and dense or when residual control is important. GrazonNext also provides preemergence control of germinating seeds or seedlings of susceptible weeds that emerge following application. Increasing application rate to the high end of the rate range specified will extend period of residual control.

Table 3: Broadleaf Weeds Controlled

Weed Species			
Common Name	**Scientific Name**	**Life Cycle*****	**Plant Family**
Rate Range: 1.5 to 2 pints/acre			
broomweed, annual*	*Amphiachyris dracunculoides*	annual	Asteraceae
carrot, wild*	*Daucus carota*	biennial	Apiaceae
clover, sweet	*Melilotus officinalis*	biennial	Fabaceae
clover, white	*Trifolium repens*	perennial	Fabaceae
cocklebur*	*Xanthium strumarium*	annual	Asteraceae
croton, woolly*,**	*Croton capitatus*	annual	Euphorbiaceae
crownvetch*	*Securigera varia*	perennial	Fabaceae
falsedandelion, Carolina*	*Pyrrhopappus carolinianus*	annual/biennial	Asteraceae
fleabane, annual*	*Erigeron annus*	annual	Asteraceae
gumweed, curlycup	*Grindelia squarrosa*	biennial	Asteraceae
horsenettle, Carolina*,**	*Solanum carolinense*	perennial	Solanaceae
lettuce, prickly*	*Lactuca serriola*	annual	Asteraceae
pokeweed, common	*Phytolacca americana*	perennial	Phytolaccaceae
ragweed, common*,**	*Ambrosia artemisiifolia*	annual	Asteraceae
ragweed, western	*Ambrosia psilostachya*	perennial	Asteraceae
sneezeweed, bitter*	*Helenium amarum*	annual	Asteraceae

Table 3: Broadleaf Weeds Controlled (Cont.)

Weed Species			
Common Name	**Scientific Name**	**Life Cycle*** **	**Plant Family**
thistle, bull*,**	*Cirsium vulgare*	biennial	Asteraceae
thistle, musk*,**	*Carduus nutans*	biennial	Asteraceae
thistle, plumeless*,**	*Carduus acanthoides*	biennial	Asteraceae
vervain, blue*	*Verbena hastata*	perennial	Asteraceae
vervain, hoary*	*Verbena stricta*	perennial	Asteraceae
vetch, common*	*Vicia sativa*	annual	Fabaceae
Rate Range: 2 to 2.6 pints/acre			
amaranth, spiny*	*Amaranthus spinosus*	annual	Amaranthaceae
burdock, common*,**	*Arctium minus*	biennial	Asteraceae
camphorweed*	*Heterotheca subaxillaris*	annual	Asteraceae
chickweed, common*	*Stellaria media*	annual	Caryophyllaceae
chicory*	*Cichorium intybus*	perennial	Asteraceae
cudweed, purple	*Gnaphalium purpureum*	annual	Asteraceae
dandelion, common*	*Taraxacum officinale*	perennial	Asteraceae
dock, broadleaf*	*Rumex obtusifolius*	perennial	Polygonaceae
dock, curly*	*Rumex crispus*	perennial	Polygonaceae
dogfennel***	*Eupatorium capillifolium*	perennial	Asteraceae
evening primrose, cutleaf*	*Oenothera laciniata*	annual	Asteraceae
false dandelion, Carolina*	*Tragopogon dubius*	biennial	Asteraceae
fleabane, annual*	*Erigeron annus*	annual	Asteraceae
goldenrod, Canada*	*Solidago canadensis*	perennial	Asteraceae
goldenrod, Missouri*	*Solidago missouriensis*	perennial	Asteraceae
goldenrod, rigid	*Solidago rigida*	perennial	Asteraceae
henbit*	*Lamium amplexicaule*	annual/biennial	Lamiaceae
horseweed*	*Conyza canadensis*	annual	Asteraceae
ironweed, tall	*Vernonia gigantea*	perennial	Asteraceae
ironweed, western	*Vernonia baldwinii*	perennial	Asteraceae
kudzu*,**	*Pueraria montana*	perennial	Fabaceae
lambsquarters, common*	*Chenopodium album*	annual	Chenopodiaceae
lespedeza, annual	*Lespedeza striata*	annual	Fabaceae
locust	*Robinia pseudoacacia*	perennial	Fabaceae
marshelder, annual*	*Iva annua*	annual	Asteraceae
medic, black*	*Medicago lupulina*	perennial	Fabaceae
Mexican-tea	*Dysphania ambrosioides*	annual/ perennial	Chenopodiaceae
mullein****	*Verbascum spp.*	biennial	Scrophulariaceae
partridgepea*	*Chamaecrista fasciculata*	annual	Fabaceae
plantain, broadleaf*	*Plantago major*	perennial	Plantaginaceae
plantain, buckhorn*	*Plantago lanceolata*	perennial	Plantaginaceae
rose, multiflora*****	*Rosa multiflora*	perennial	Rosaceae
sicklepod*	*Senna obtusifolia*	annual	Fabaceae
smartweed, Pennsylvania	*Polygonum pensylvanicum*	annual	Polygonaceae
soda apple, tropical*,**	*Solanum viarum*	perennial	Solanaceae
Spanish needles	*Bidens bipinnata*	annual	Asteraceae
sunflower, common*	*Helianthus annua*	annual	Asteraceae
thistle, scotch	*Onopordum acanthium*	biennial	Asteraceae
yarrow, common*	*Achillea millefolium*	perennial	Asteraceae

*These plants are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).
**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).
***Spot treatment at rates up to 84 fl oz (5.2 pints) of GrazonNext may be particularly effective against dense patches of perennial broadleaf plants.
****apply during rosette stage
*****see specific use recommendations below for multiflora rose.

Specific Use Recommendations

Multiflora rose, individual plant treatment - Use 42 fl oz of GrazonNext in 100 gal of water with 32 fl oz (0.25% v/v) of a non-ionic surfactant. Or, 32 fl oz of GrazonNext can be tank mixed with Remedy Ultra at 32 fl oz. Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing. Spot treatments may be applied at an equivalent broadcast rate of up to 84 fl oz of GrazonNext per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

Multiflora rose, broadcast treatment: 32 to 42 fl oz of GrazonNext can be tank mixed with Remedy Ultra at 16 fl oz. Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may seriously injure crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note**: Local terrain such as valleys and ravines can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
Indianapolis, IN 46268

Label Code: D02-366-002
Replaces Label: D02-366-001
LOES Number: 010-02186

EPA accepted 12/4/09

Revisions:

1. Added advisory and graphics to prevent injury to desirable plants
2. Removed "grasses grown for hay"
3. Added restriction to prohibit use on grasses grown for hay intended for export
4. Added restriction to prohibit use on grasses grown for seed
5. Added turf to lawn/ornamental restriction
6. Added restriction on grazing poisonous plants
7. Revised Aerial Drift Reduction Advisory
8. Revised Storage and Disposal

Specimen Label

Dow AgroSciences™

Milestone® VM Plus

SpecialtyHerbicide

® Trademark of Dow AgroSciences LLC

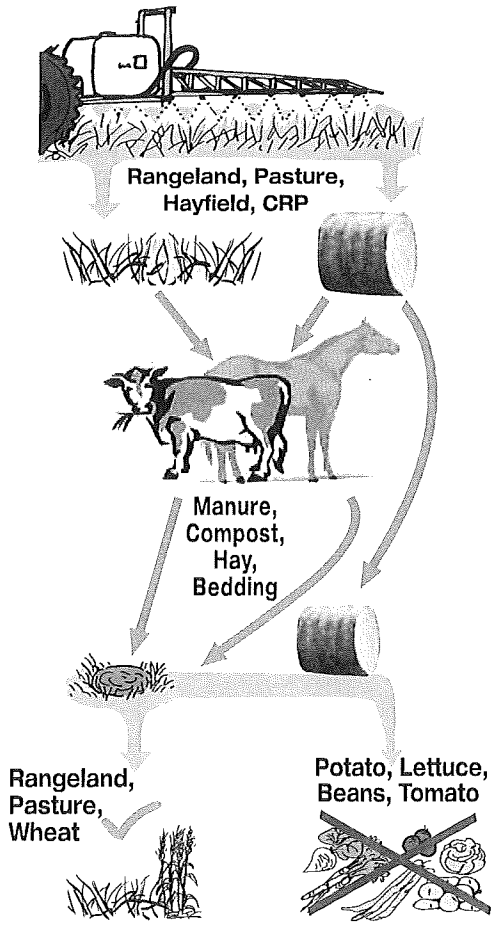
For control of herbaceous broadleaf weeds and woody plants in rangeland, permanent grass pastures, Conservation Reserve Program (CRP), forests, and on non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission and distribution lines, pipelines, and railroads), fencerows, non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.

Use within sites listed above may include applications to seasonably dry wetlands (including flood plains, marshes, swamps, or bogs) and around standing water on sites such as deltas and riparian areas.

IMPORTANT ADVISORY TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this product label.
- Carefully read the section ***"Plant Residues or Manure."***
- Manure and urine from animals consuming treated grass or hay may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Inform the recipient of hay or manure from animals grazing pastures or feeding on hay from areas treated with aminopyralid of the label use precautions and restrictions.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions". **Call [1-(800) 263-1196] Customer Information Group.**

Hay and Manure Management



Not For Sale, Distribution, or Use in New York State.

GROUP	4	HERBICIDE

Active Ingredient:
Triisopropanolammonium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro- 2.22%
Triethylamine salt of [(3,5,6-trichloro-2-pyridinyl)oxy]acetic acid) 16.22%
Other Ingredients 81.56%
Total 100.0%

Acid Equivalents:
aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) – 1.15% (0.1 lb/gal)
triclopyr (3,5,6-trichloro-2-pyridinyloxyacetic acid) – 11.63% (1 lb/gal)

EPA Reg. No. 62719-572

Keep Out of Reach of Children

CAUTION

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to inside of label booklet for Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if Swallowed • Causes Moderate Eye Irritation

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes, skin or clothing.

Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves (≥ 14 mils) such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Not For Sale, Distribution, or Use in New York State.

Entry Restrictions: For applications on non-cropland areas, do not enter or allow others to enter the treated area until sprays have dried.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
- Coveralls
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves (≥ 14 mils) such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS does not pertain to non-agricultural use on sites, such as, rangeland, permanent grass pastures, or non-cropland. See the Agricultural Use Requirements section for information where the WPS applies.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures (not harvested for hay) and non-cropland areas, do not allow entry into areas until sprays have dried, unless applicator and other handler PPE is worn.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal. Open dumping is prohibited.

Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized active ingredient prior to use.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Resistance Management Guidelines

- Development of plant populations tolerant to auxiliary growth regulator mode-of-action is usually not a problem on non-cropland sites because these sites receive infrequent pesticide applications.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Non-Cropland Areas, Forests, and Industrial Non-Crop Areas

Milestone VM Plus specialty herbicide controls broadleaf weeds, including invasive and noxious weeds on forests and non-cropland areas including industrial sites, rights-of-way (including roadsides, electric utility and communication transmission and distribution lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

Use within sites listed above may include applications to seasonably dry wetlands (including flood plains, marshes, swamps, or bogs) and around standing water on sites such as deltas and riparian areas.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

- It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites only when dry.
- Minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. **Note:** Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas.
- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Milestone VM Plus within 50 feet of a border downwind (in direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Follow Precautions for Avoiding Spray Drift and Spray Drift Advisory under General Mixing and Application Instructions to minimize the potential for spray drift.
- **Milestone VM Plus is highly active against many broadleaf plant species.** Do not use this product on areas where loss of desirable broadleaf plants, including legumes, cannot be tolerated.
- **Do not use on grasses grown for hay intended for export.**
- **Do not use on grasses grown for seed production.**
- Do not apply this product on residential or commercial lawns, turf, or ornamental plantings.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Untreated trees can occasionally be affected by root uptake of Milestone VM Plus through movement into the soil or by excretion of the product from the roots of nearby treated trees. Do not apply Milestone VM Plus within the root zone of desirable trees.
- **Crop Rotation:** Do not rotate non-cropland to cropland for one year following an application of Milestone VM Plus. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.
- **Seeding Legumes or Wildflowers:** Do not plant legumes or wildflowers until a soil bioassay has been conducted to determine if residues of Milestone VM Plus remaining in the soil will adversely affect establishment of legumes and wildflowers.
- **Field Bioassay Instructions:** In a representative section of an area previously treated with this product, plant short test rows of the intended species across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time after application and before the planting of the intended species. Observe the seeded species for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the intended seeded species may be planted. If herbicidal activity is observed, do not plant the field to the intended seeded species.

- **Plant Residues or Manure:**
  - Do not use Milestone VM Plus-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days as compost or mulch that will be applied to areas where susceptible broadleaf plants may be grown.
  - Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.
  - Manure from animals that have grazed forage or hay harvested from Milestone VM Plus-treated areas within the previous 3 days may only be spread on pasture grasses, grass grown for seed, and wheat.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or hay harvested from Milestone VM Plus-treated areas until an adequately sensitive field bioassay is conducted to determine that the Milestone VM Plus residues in the soil is at a level that is not injurious to the crop to be planted.
  - To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of Milestone VM Plus in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or hay harvest following application of Milestone VM Plus at labeled rates. Do not transfer grazing animals from areas treated with Milestone VM Plus to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough Milestone VM Plus to cause injury to broadleaf plants.
- **Grazing Poisonous Plants:** Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.
- **Maximum Application Rate:** On non-cropland areas, do not apply more than 9 pints per acre of Milestone VM Plus (0.11 lb acid equivalent aminopyralid and 1.12 lb acid equivalent triclopyr) per year. The total amount of Milestone VM Plus applied broadcast, as a re-treatment, and/or spot treatment per year, must not exceed 9 pints per acre. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient rate per acre per application per year.

Application Methods

(Broadcast Equipment)

Ground Broadcast Application: Apply the labeled rate of Milestone VM Plus as a coarse low-pressure spray. Spray volume should be sufficient to uniformly cover foliage. Higher volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage canopies situations. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer.

Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce weed control and increase spray drift potential.

Aerial Broadcast Application: Apply the labeled rate of Milestone VM Plus as a coarse low-pressure spray. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. Spray volumes greater than 2 gallons per acre generally provide better coverage and better control, particularly when the foliage canopy is dense and/or tall. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Also see Precautions for Avoiding spray Drift and Aerial Spray Drift Advisory.

(Hand-Held Equipment)

High-Volume Foliar Application: High volume foliar applications may be applied at rates equivalent to the broadcast-applied rate up to a maximum of 9 pints per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems. To ensure thorough wetting of high volume treatments, a high quality non-ionic agricultural surfactant such as a non-ionic or methylated seed oil may be added to the spray mixture as recommended by the surfactant manufacturer. Multiple applications may be made, but the total amount of Milestone VM Plus applied must not exceed 9 pints per acre per year.

Low Volume Foliage Treatment

To control susceptible woody plants, apply up to 9 pints of Milestone VM Plus in 10 to 100 gallons of finished spray depending on plant density. The spray concentration of Milestone VM Plus and total spray volume per acre should be adjusted according to the size and density of target woody plants and kind of spray equipment used. With low volume sprays, use sufficient spray volume to obtain uniform coverage of target plants including the surfaces of all foliage, stems, and root collars (see General Use Precautions and Restrictions). For best results, a surfactant such as a non-ionic or methylated seed oil should be added to all spray mixtures. Match equipment and delivery rate of spray nozzles to height and density of woody plants. When treating tall, dense brush, a hose and spray gun with spray tips that deliver up to 2 gallons per minute at 40 to 60 psi may be required. Backpack or other types of specialized spray equipment with spray tips that deliver less than 1 gallon of spray per minute may be appropriate for short, low to moderate density brush.

Spot Application: Spot applications may be made at rates equivalent to the broadcast-applied rate of 4 to a maximum of 9 pints per acre per annual growing season. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Use of a high quality non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat treatments may be made, but the total amount of Milestone VM Plus applied must not exceed 9 pints per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated boom, boomless spray system, hand-held, or backpack sprayers.

Spot applications may be made at a rate of up to 0.22 lb acid equivalent aminopyralid (9 quarts of Milestone VM Plus) per acre; however, not more than 50% of an acre may be treated. Do not apply more than a total of 0.11 lb acid equivalent aminopyralid per acre (9 pints per acre of Milestone VM Plus) per annual growing season as a result of broadcast, spot or repeat applications.

Aerial Application

Aerial sprays should be applied using suitable drift control. (See Precautions for Avoiding Spray Drift and Aerial Drift Reduction Advisory). Add an agriculturally labeled non-ionic surfactant.

Herbaceous Broadleaf Weed and Woody Plant Control

Rangeland, Permanent Grass Pastures and CRP Acres

Milestone VM Plus may be applied to rangeland, permanent pasture or CRP acres seeded to permanent grasses as an aerial or ground broadcast treatment, as a spot application, or as a high or low volume foliar application (see Application Methods section) to control susceptible broadleaf weeds, including invasive and noxious weeds (see Broadleaf Weeds Controlled section). Milestone VM Plus may be applied alone or in tank mix combinations with labeled rates of other herbicides provided that: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) tank mixing is not prohibited by the label of the registered tank mixed products. When tank mixing, follow the use directions on the labeling of each tank mix partner. Follow Mixing Instructions under the General Mixing and Application Instructions section.

Do not use Milestone VM Plus if loss of legumes species or other broadleaf species cannot be tolerated.

During the season of establishment, Milestone VM Plus should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to Milestone VM Plus at this stage of development. Only Smooth Brome grass (Bromus inermis) has been identified to be suppressed by Milestone VM Plus, this appears to occur under adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.

Non-Cropland, Forests, and Industrial Non-Crop Areas

Milestone VM Plus may be applied to non-cropland, forests, and industrial non-crop areas as an aerial or ground broadcast application, as a spot application, or as a high volume foliar application (see Application Methods section) to control herbaceous broadleaf weeds and woody plants. Milestone VM Plus may be applied alone or in tank-mix combinations with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products. Use as directed in the Directions of Use section of the tank-mix partner. Follow Mixing Instructions under the General Mixing and Application Instructions section below.

Forest Management Applications

For best control from broadcast applications of Milestone VM Plus, use a spray volume which will provide thorough plant coverage. Recommended spray volumes are usually 10 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. To improve spray coverage of spray volumes less than 50 gallons per acre, add an agriculturally labeled non-ionic

surfactant. Application systems should be used to prevent hazardous drift to off-target sites. Nozzles or additives that produce larger droplets of spray may require higher spray volumes.

Forest Site Preparation (Not for Conifer Release)

Use up to 9 pints of Milestone VM Plus and apply in a total spray volume of 10 to 30 gallons per acre. Use a non-ionic agricultural surfactant for all foliar applications. Tank mixtures with other herbicides registered for forest use may be necessary to control woody brush if brush is not sensitive to the use rates of this product. When tank mixtures of herbicides are used for forest site preparation, labels for all products in the mixture must be followed and the longest recommended waiting period before planting observed.

Directed Spray Applications for Conifer Release

To release conifers from competing hardwoods such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, hickory, alder, birch, aspen, and pin cherry, mix 9 pints Milestone VM Plus in enough water to make 100 gallons of spray mixture. To improve spray coverage, add an agriculturally labeled non-ionic surfactant. The spray mixture should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any time after hardwoods have reached full leaf size, but before autumn coloration. The majority of treated hardwoods should be less than 6 feet in height to ensure adequate spray coverage. Care should be taken to direct spray away from contact with conifer foliage, particularly foliage of desirable pines.

Note: Over-the-top spray applications can severly injure or kill some species such as redbud and locust.

Cut-Stump Treatment

To control unwanted trees of hardwood species such as elm, maple, oak and conifers, apply Milestone VM Plus, undiluted, by spraying or painting the cut surfaces of freshly cut stumps and stubs as soon as possible after cutting with undiluted Milestone VM Plus. The cambium area next to the bark is the most vital area to wet.

With Tree Injector Method

Apply by injecting 1 milliliter of undiluted Milestone VM Plus through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. **Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is injected directly into plants.**

With Hack and Squirt Method

Make cuts around the tree trunk at a convenient height with a hatchet or similar equipment so that the cuts overlap slightly and make a continuous circle around the trunk. Spray 1 milliliter of undiluted Milestone VM Plus into the pocket created between the bark and the inner stem/trunk by each cut.

With Frill or Girdle Method

Make a single girdle through the bark completely around the tree at a convenient height. The frill should allow for the herbicide to remain next to the inner stem and absorb into the plant. Wet the cut surface with undiluted solution.

Both of the above methods may be used successfully at any season except during periods of heavy sap flow of certain species - for example, maples.

Herbaceous Broadleaf Weed and Woody Plant Management Practices

Milestone VM Plus may be applied postemergence as a broadcast spray or as a spot application to control broadleaf weeds listed on this label; weeds other than those listed may also be controlled by this herbicide. Postemergence applications should be made before bud stage or early flowering, unless otherwise specified. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less than favorable growing conditions (such as drought stress). Best weed control results are obtained when spray volume is sufficient to provide uniform coverage of treated plants. For optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 7 days following application.

Milestone VM Plus also provides preemergence control of germinating seeds or emerging seedlings of susceptible broadleaf weeds following application.

Milestone VM Plus can provide long-term control of weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term broadleaf weed control is most effective where grasses and other desirable vegetation is allowed to recover from adverse environmental conditions (such as drought) and compete with susceptible broadleaf weeds.

Milestone VM Plus can be an important component of integrated vegetation management programs designed to renovate or restore desired non-cropland plant communities. To maximize and extend the benefits of weed control provided by Milestone VM Plus, it is important that other vegetation management practices, including mowing, fertilization, haying, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired non-cropland plant communities. Natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Herbaceous Broadleaf Weeds Controlled

The following weeds will be controlled with the rates of Milestone VM Plus indicated in Table 1 below. For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense. Milestone VM Plus also provides preemergence control of germinating seeds and control of emerged seedlings of susceptible broadleaf weeds following application.

Table 1: Broadleaf Weeds Controlled

Common Name (Rate Range 4-6 pints/acre)	
amaranth, spiny	marshelder, annual
bedstraw	mayweed, scentless*
bindweed, field	mayweed, stinking*, **
broomweed, annual	medic, black*
burdock, common*, **	mullein *, **
buttercup, hairy*	oxtongue, bristly
buttercup, tall*, **	plantain
camelthorn**	ragweed, common**
chamomile, scentless*	ragweed, western
chickweed	ragwort, tansy*, **
chicory*	rush skeletonweed *, **
cinquefoil, sulfur (1)*, **	smartweed, Pennsylvania
clover	sneezeweed, bitter
cocklebur	soda apple, tropical (5)*, **
croton, tropic	sowthistle, perennial*, **
cudweed, purple	Spanish needles
daisy, oxeye (1)*, **	St. Johnswort
dandelion, common	star thistle, Malta
dock, curly*	star thistle, purple
evening primrose, cutleaf	star thistle, yellow (6)*, **
fiddleneck, common	sunflower, common
fireweed	teasel *, **
fleabane, flax-leaf	teasel, fuller's*
hawkweed, orange (2)*, **	thistle, artichoke
hawkweed, yellow (2)*, **	thistle, bull (7)*, **
henbit*	thistle, Canada (8)*, **
horsenettle, Carolina**	thistle, Italian
horseweed (marestail) ironweed, tall ironweed, western knapweeds*, ** knapweed, diffuse (3)*, ** knapweed, Russian (4)*, ** knapweed, spotted (3)*, ** kudzu*, **	thistle, musk (7)*, ** thistle, plumeless (7)*, ** thistle, woolly distaff *, ** vetch wild carrot wormwood, absinth*, ** yarrow, common

* Invasive plants are introduced species that are indicated to be invasive in the USDA-NRCS, PLANTS Database (http://plants.usda.gov/index.html).

** Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, http://plants.usda.gov/index.html).

(1) **Sulfur cinquefoil or oxeye daisy:** Apply Milestone VM Plus at 5 to 8 pints per acre to plants in the prebud stage of development.

(2) **Orange or yellow hawkweeds:** Apply Milestone VM Plus at 5 to 8 pints per acre to plants in the bolting stage of development.

(3) **Diffuse and spotted knapweeds:** Apply Milestone VM Plus at 6 to 9 pints per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall.

(4) **Russian knapweed:** Apply Milestone VM Plus at 5 to 8 pints per acre to plants in the spring and summer that are in the bud to flowering stage and to dormant plants in the fall.
(5) **Tropical soda apple:** Apply Milestone VM Plus at 6 to 9 pints per acre at any growth stage, but application at flowering will reduce seed production potential.
(6) **Yellow starthistle:** Apply Milestone VM Plus at 4 to 6 pints per acre to plants at the rosette through bolting growth stages.
(7) **Bull, musk and plumeless thistles:** Apply Milestone VM Plus at 4 to 6 pints per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 5 to 6 pints when plants are at the late bolt through early flowering growth stages.
(8) **Canada thistle:** Apply Milestone VM Plus at 6 to 9 pints per acre either in the spring to plants in the prebud growth stage or in the fall to plant regrowth.

Woody Plants Controlled

The following woody plants will be controlled or partially controlled with Milestone VM Plus at 6 to 9 pints/acre. For best results, woody plants should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate with plants listed as Partial Control, when growing conditions are less than favorable, or when weed foliage is tall and dense.

Table 2: Woody Plants Controlled or Partially Controlled

Control

Common Name	
arrowwood	mimosa
aspen	poison ivy
Australian pine	poison oak
blackberry	poplar
ceanothus	redbud
choke cherry	scotch broom
cottonwood	sumac
locust	wild rose
locust, black	wisteria
locust, honey	

Partial Control

Common Name	
Ash	persimmon
bear clover (bearmat)	pine
beech	salt-bush *(Baccharis* spp.)
birch	salt cedar"
blackgum	salmonberry
Brazilian pepper	sassafras
cascara	sweetbay magnolia
chinquapin	sweetgum
Douglas-fir	sycamore
dogwood	tanoak
elderberry	thimbleberry
elm	waxmyrtle
gallberry	western hemlock
hazel	willow
hornbean	winged elmwillow
madrone	winged elm
maples	
Mulberry	
oaks	

Partial control: a sequential application or tank mixes with additional Garlon® 3A, Accord® or other herbicides may be necessary for complete control.

General Mixing and Application Instructions

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add Milestone VM Plus and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift reduction and deposition aids.

Tank Mixing with Other Herbicides: Milestone VM Plus at rates of up to 9 pints per acre may be mixed with labeled rates of other herbicides registered for application on listed sites to broaden the spectrum of weeds controlled or to improve control of certain weeds. Milestone VM Plus may be applied in tank-mix combination with labeled rates of other herbicides provided: (1) the product tank-mixed with Milestone VM Plus is labeled for the timing and method of application for the use site to be treated; (2) mixing is not prohibited by the label of the product to be tank mixed with Milestone VM Plus; and (3) Milestone VM Plus is compatible with the product to be included in a tank-mix. Use as directed in the Directions for Use section of the tank mix partner.

- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility (see Tank Mix Compatibility Testing below.)
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank-Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Milestone VM Plus and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid such as Unite or Complex may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Use with Surfactants: For post-emergence applications, a high quality surfactant such as a non-ionic surfactant of at least 80% active ingredient, should be added at 0.25% to 0.5% by volume (unless otherwise specified) to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Sprayer Clean-Out Instructions

Do not use spray equipment used to apply Milestone VM Plus for other applications to land planted to susceptible crops or desirable sensitive plants unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply Milestone VM Plus should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of the rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream. This produces larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 75% of wingspan or 85% of the rotor diameter may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

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Replaces Label: D02-886-002
LOES Number: 010-02160

EPA accepted 12/4/09

Revisions:

1. Added advisory to prevent injury to desirable plants
2. Added restrictions on grasses grown for hay intended for export, grasses grown for seed production, residential/commercial lawns, turf, and ornamental, and grazing poisonous plants
3. Add use in forestry
4. Updated Storage and Disposal

Specimen Label

Dow AgroSciences

Garlon® 3A

Specialty Herbicide

®Trademark of Dow AgroSciences LLC

For the control of woody plants, broadleaf weeds in forests and industrial non-crop areas, including manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, fence rows, non-irrigation ditch banks, and around farm buildings; including application to grazed areas, and establishment and maintenance of wildlife openings on these sites, and in Christmas tree plantations. Use within production forests and industrial non-crop sites (including those listed above) may include applications to control target vegetation in and around standing water sites, such as marshes, wetlands, and the banks of ponds and lakes.

For use in New York State, comply with Section 24(c) Special Local Need labeling for Garlon 3A, SLN NY-060002.

Active Ingredient:
triclopyr: 3,5,6-trichloro-2-pyridinyloxyacetic acid, triethylamine salt 44.4%
Other Ingredients 55.6%
Total 100.0%

Acid equivalent: triclopyr - 31.8% - 3 lb/gal

EPA Reg. No. 62719-37

Keep Out of Reach of Children

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazard to Humans and Domestic Animals

Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed Or Absorbed Through Skin • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reaction In Some Individuals

Do not get in eyes or on skin or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical resistant gloves (≥14 mils) such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Note to Applicator: Allergic skin reaction is not expected from exposure to spray mixtures of Garlon 3A herbicide when used as directed.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Under certain conditions, treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants, which may contribute to fish suffocation. This loss can cause fish suffocation. Therefore, to minimize this hazard, do not treat more than one-third to one-half of the water area in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State agency for fish and game before applying to public water to determine if a permit is needed.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Physical or Chemical Hazards

Combustible. Do not use or store the product near heat or open flame.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves (≥14 mils) such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: For applications to non-cropland areas, do not allow entry into areas until sprays have dried, unless applicator and other handler PPE is worn.

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal. Open dumping is prohibited.
Pesticide Storage: Store above 28°F or agitate before use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers 5 gallons or larger:
Container Reuse: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers 5 gallons or larger:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information for Production Forests and Industrial Non-Crop Areas

Use Garlon® 3A specialty herbicide for the control of woody plants and broadleaf weeds in forests and industrial non-crop areas including manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, fence rows, non-irrigation ditch banks, and around farm buildings, including application to grazed areas, and establishment and maintenance of wildlife openings on these sites, and in Christmas tree plantations. Use within production forests and industrial non-crop sites (including those listed above) may include applications to control target vegetation in and around standing water sites, such as marshes, wetlands, and the banks of ponds and lakes.

Obtain Required Permits: Consult with appropriate state or local water authorities before applying this product to public waters. State or local public agencies may require permits.

General Use Precautions and Restrictions

For use in New York State, comply with Section 24(c) Special Local Need labeling for Garlon 3A, SLN NY-060002.

When applying this product in tank mix combination, follow all applicable use directions, precautions and limitations on each manufacturer's label.

Chemigation: Do not apply this product through any type of irrigation system.

Do not apply Garlon 3A directly to, or otherwise permit it to come into direct contact with, grapes, tobacco, vegetable crops, flowers, or other desirable broadleaf plants. Do not permit spray mists containing Garlon 3A to drift onto such plants.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites.

Water treated with Garlon 3A may not be used for irrigation purposes for 120 days after application or until residue levels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

Seasonal Irrigation Waters: Garlon 3A may be applied during the off-season to surface waters that are used for irrigation on a seasonable basis provided that there is a minimum of 120 days between applying Garlon 3A and the first use of treated water for irrigation purposes, or until residue levels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

Irrigation Canals/Ditches: Do not apply Garlon 3A to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or residue levels of Garlon 3A are determined by laboratory analysis, or other appropriate means of analysis, to be 1 ppb or less.

- **Do not** apply to salt water bays or estuaries.
- **Do not** apply directly to un-impounded rivers or streams.
- **Do not** apply on ditches or canals currently being used to transport irrigation water or that will be used for irrigation within 4 months following treatment. It is permissible to treat irrigation and non-irrigation ditch banks.
- **Do not** apply where runoff water may flow onto agricultural land as injury to crops may result.
- When making applications to control unwanted plants on banks or shorelines of moving water sites, minimize overspray to open water.
- The use of a mistblower is not recommended.
- Apply no more than 2 lb ae of triclopyr (2/3 gallon of Garlon 3A) per acre per growing season on range and pasture sites, including rights-of-way, fence rows or any area where grazing or harvesting is allowed.
- On forestry sites, Garlon 3A may be used at rates up to 6 lb ae of triclopyr (2 gallons of Garlon 3A) per acre per year.
- For all terrestrial use sites other than range, pasture, forestry sites, and grazed areas, the maximum application rate is 9 lb ae of triclopyr (3 gallons of Garlon 3A) per acre per year.

Precautions for Potable Water Intakes for Emerged Aquatic Weed Control

See chart below for specific setback distances near functioning potable water intakes. **Note:** Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes. These setback restrictions do not apply to terrestrial applications made adjacent to potable water intakes.

	Garlon 3A Application Rate			
Area Treated	2 qt/acre	4 qt/acre	6 qt/acre	8 qt/acre
(acres)	Setback Distance (ft)			
4	0	200	400	500
>4 - 8	0	200	700	900
>8 - 16	0	200	700	1000
>16	0	200	900	1300

To apply Garlon 3A around and within the distances noted above from a functioning potable water intake, the intake must be turned off until the triclopyr level in the intake water is determined to be 0.4 parts per million (ppm) or less by laboratory analysis or immunoassay.

- **Recreational Use of Water in Treatment Area:** There are no restrictions on use of water in the treatment area for recreational purposes, including swimming and fishing.
- **Livestock Use of Water from Treatment Area:** There are no restrictions on livestock consumption of water from the treatment area.

Grazing and Haying Restrictions

Except for lactating dairy animals, there are no grazing restrictions following application of this product.

- **Grazing Lactating Dairy Animals:** Do not allow lactating dairy animals to graze treated areas until the next growing season following application of this product.
- Do not harvest hay for 14 days after application.
- Grazed areas of non-cropland and forestry sites may be spot treated if they comprise no more than 10% of the total grazable area.

Slaughter Restrictions: During the season of application, withdraw livestock from grazing treated grass at least 3 days before slaughter.

Avoiding Injurious Spray Drift

Make applications only when there is little or no hazard from spray drift. Small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants that are near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

Aerial Application: For aerial application on rights-of-way or other areas near susceptible crops, apply through a Microfoil† or Thru-Valve boom†, or use an agriculturally labeled drift control additive. Other drift reducing systems or thickened sprays prepared by using high viscosity inverting systems may be used if they are made as drift-free as mixtures containing agriculturally labeled thickening agents or applications made with the Microfoil or Thru-Valve boom. Keep spray pressures low enough to provide coarse spray droplets. Spray boom should be no longer than 3/4 of the rotor length. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when the wind velocity is low (follow state regulations). Avoid application during air inversions. If a spray thickening agent is used, follow all use recommendations and precautions on the product label.

† Reference within this label to a particular piece of equipment produced by or available from other parties is provided without consideration for use by the reader at its discretion and subject to the reader's independent circumstances, evaluation, and expertise. Such reference by Dow AgroSciences is not intended as an endorsement of such equipment, shall not constitute a warranty (express or implied) of such equipment, and is not intended to imply that other equipment is not available and equally suitable. Any discussion of methods of use of such equipment does not imply that the reader should use the equipment other than is advised in directions available from the equipment's manufacturer. The reader is responsible for exercising its own judgment and expertise, or consulting with sources other than Dow AgroSciences, in selecting and determining how to use its equipment.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 3/4 the length of the rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory. [This information is advisory in nature and does not supersede mandatory label requirements.]

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 3/4 of the rotor length may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Ground Equipment: To aid in reducing spray drift, Garlon 3A should be used in thickened (high viscosity) spray mixtures using an agriculturally labeled drift control additive, high viscosity invert system, or equivalent as directed by the manufacturer. With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by keeping the operating spray pressures at the lower end of the manufacturer's recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when wind velocity is low (follow state regulations). In hand-gun applications, select the minimum spray pressure that will provide adequate plant coverage (without forming a mist). Do not apply with nozzles that produce a fine-droplet spray.

High Volume Leaf-Stem Treatment: To minimize spray drift, do not use pressure exceeding 50 psi at the spray nozzle and keep sprays no higher than brush tops. An agriculturally labeled thickening agent may be used to reduce drift.

Plants Controlled

Woody Plant Species

alder	dogwood	salt cedar[2]
arrowwood	elderberry	salmonberry
ash	elm	sassafras
aspen	gallberry	scotch broom
Australian pine	hazel	sumac
bear clover (bearmat)	hornbean	sweetbay magnolia
beech	kudzu[1]	sweetgum
birch	locust	sycamore
blackberry	madrone	tanoak
blackgum	maples	thimbleberry
Brazilian pepper	mulberry	tulip poplar
cascara	oaks	waxmyrtle
ceanothus	persimmon	western hemlock
cherry	pine	wild rose
chinquapin	poison ivy	willow
choke cherry	poison oak	winged elm
cottonwood	poplar	
crataegus (hawthorn)	salt-bush (*Baccharis* spp.)	
Douglas fir		

[1]For complete control, re-treatment may be necessary.
[2]Use cut surface treatments for best results.

Annual and Perennial Broadleaf Weeds

bindweed	Mexican petunia	tropical soda apple
burdock	plantain	vetch
Canada thistle	purple loosestrife	wedelia
chicory	ragweed	wild lettuce
curly dock	smartweed	
dandelion	Spanish needles/ common beggarthicks	
field bindweed	tansy ragwort	
lambsquarter		

Purple Loosestrife (*Lythrum salicaria*)

Purple loosestrife can be controlled with foliar applications of Garlon 3A. For broadcast applications, use a minimum of 4 1/2 to 6 lb ae of triclopyr (6 to 8 quarts of Garlon 3A) per acre. Apply Garlon 3A when purple loosestrife is at the bud to mid-flowering stage of growth. Follow-up applications for control of regrowth should be made the following year in order to achieve increased control of this weed species. For all applications, a non-ionic surfactant should be added to the spray mixture. Follow all directions and use precautions on the label of the surfactant. Thorough wetting of the foliage and stems is necessary to achieve satisfactory control. A minimum spray volume of 50 gallons per acre is recommended for ground broadcast applications.

If using a backpack sprayer, a spray mixture containing 1% to 1.5% Garlon 3A or 5 to 7.6 fl oz of Garlon 3A per 4 gallons of water should be used. All purple loosestrife plants should be thoroughly wetted.

Application Methods

Use Garlon 3A at rates of 3/4 to 9 lb ae of triclopyr (1/4 to 3 gallons of Garlon 3A) per acre to control broadleaf weeds and woody plants. In all cases, use the amount specified in enough water to give uniform and complete coverage of the plants to be controlled. Use only water suitable for spraying. Use an agriculturally labeled non-ionic surfactant for all foliar applications. When using surfactants, follow the use directions and precautions listed on the surfactant manufacturer's label. Use the higher concentrations of surfactant in the spray mixture when applying lower spray volumes per acre. The order of addition to the spray tank is water, spray thickening agent (if used), additional herbicide (if used), and Garlon 3A. Surfactant should be added to the spray tank last or as recommended on the product label. If combined with emulsifiable concentrate herbicides, moderate continuous adequate agitation is required.

Before using any recommended tank mixtures, read the directions and all use precautions on both labels.

For best results, apply when woody plants and weeds are actively growing. When hard to control species such as ash, blackgum, choke cherry, elm, maples, oaks, pines, or winged elm are prevalent and during applications made in late summer when the plants are mature and during drought conditions, use the higher rates of Garlon 3A alone or in combination with Tordon® 101 Mixture specialty herbicide. (Tordon 101 Mixture is a restricted use pesticide. See product label.) Tordon 101 Mixture is not registered for use in the states of California and Florida.

When using Garlon 3A in combination with 2,4-D 3.8 lb amine, like DMA 4 IVM, or low volatile ester herbicides, generally the higher rates should be used for satisfactory brush control.

Use the higher dosage rates when brush approaches an average of 15 feet in height or when the brush covers more than 60% of the area to be treated. If lower rates are used on hard to control species, resprouting may occur the year following treatment.

On sites where easy to control brush species dominate, rates less than those listed may be effective. Consult State or Local Extension personnel for such information.

Foliage Treatment With Ground Equipment

High Volume Foliage Treatment
For control of woody plants, use Garlon 3A at the rate of 3 to 9 lb ae of triclopyr (1 to 3 gallons of Garlon 3A) per 100 gallons of spray solution, or Garlon 3A at 3/4 to 3 lb ae of triclopyr (1 to 4 quarts of Garlon 3A) may be tank mixed with 1/4 to 1/2 gallons of 2,4-D 3.8 lb amine, like DMA 4 IVM, or low volatile ester or Tordon 101 Mixture and diluted to make 100 gallons of spray solution. Apply at a volume of 100 to 400 gallons of total spray per acre depending upon size and density of woody plants. Coverage should be thorough to wet all leaves, stems, and root collars. (See General Use Precautions and Restrictions.) Do not exceed maximum allowable use rates per acre (see table below). Tordon 101 Mixture is not registered for use in the states of California and Florida.

Maximum Labeled Rate versus Spray Volume per Acre

Total Spray Volume (gal/acre)	Maximum Rate of Garlon 3A		
	Rangeland and Pasture Sites[1] (gal/100 gal of spray)	Forestry Sites[2] (gal/100 gal of spray)	Other Non-Cropland Sites[3] (gal/100 gal of spray)
400	Do not use	0.5	0.75
300	Do not use	0.67	1
200	Do not use	1	1.5
100	0.67	2	3
50	1.33	4	6
40	1.67	5	7.5
30	2.33	6.65	10
20	3.33	10	15
10	6.67	20	30

[1] Do not exceed the maximum use rate of 2 lb ae of triclopyr (2/3 gal of Garlon 3A)/acre/year.
[2] Do not exceed the maximum use rate of 6 lb ae of triclopyr (2 gal of Garlon 3A)/acre/year.
[3] Do not exceed the maximum use rate of 9 lb ae of triclopyr (3 gal of Garlon 3A)/acre/year on non-cropland use sites other than rangeland, pasture, forestry, and grazed areas.

Low Volume Foliage Treatment
To control susceptible woody plants, apply up to 15 lb ae of triclopyr (5 gallons of Garlon 3A) in 10 to 100 gallons of finished spray. The spray concentration of Garlon 3A and total spray volume per acre should be adjusted according to the size and density of target woody plants and kind of spray equipment used. With low volume sprays, use sufficient spray volume to obtain uniform coverage of target plants including the surfaces of all foliage, stems, and root collars (see General Use Precautions and Restrictions). For best results, a surfactant should be added to all spray mixtures. Match equipment and delivery rate of spray nozzles to height and density of woody plants. When treating tall, dense brush, a truck mounted spray gun with spray tips that deliver up to 2 gallons per minute at 40 to 60 psi may be required. Backpack or other types of specialized spray equipment with spray tips that deliver less than 1 gallon of spray per minute may be appropriate for short, low to moderate density brush.

Tank Mixing: As a low volume foliar spray, up to 9 lb ae of triclopyr (3 gallons of Garlon 3A) may be applied in tank mix combination with 1/2 to 1 gallon of Tordon K or 1 to 2 gallons of Tordon 101 Mixture in 10 to 100 gallons of finished spray. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Broadcast Applications With Ground Equipment

Apply using equipment that will assure uniform coverage of the spray volumes applied. To improve spray coverage, add an agriculturally labeled non-ionic surfactant as described later under Directions for Use. See Maximum Labeled Rate versus Spray Volume per Acre table above for relationship between mixing rate, spray volume and maximum application rate.

Woody Plant Control
Foliage Treatment: Use 6 to 9 lb ae of triclopyr (2 to 3 gallons of Garlon 3A) in enough water to make 20 to 100 gallons of total spray per acre or 1 1/2 to 3 lb ae of triclopyr (1/2 to 1 gallon of Garlon 3A) may be combined with 1 to 2 gallons of 2,4-D 3.8 lb amine, like DMA 4 IVM, or low volatile esters or Tordon 101 Mixture in sufficient water to make 20 to 100 gallons of total spray per acre. Tordon 101 Mixture is not registered for use in the states of California and Florida.

Broadleaf Weed Control
Use Garlon 3A at rates of 1 to 4 1/2 lb ae of triclopyr (1/3 to 1 1/2 gallons of Garlon 3A) in a total volume of 20 to 100 gallons of water per acre. Apply any time during the growing season. Garlon 3A at 1 to 3 lb ae of triclopyr (1/3 to 1 gallon of Garlon 3A) may be tank mixed with 1/2 to 1 gallon of Tordon K, Tordon 101 Mixture or 2,4-D 3.8 lb amine, like DMA 4 IVM, or low volatile herbicides to improve the spectrum of activity. Tordon 101 Mixture and Tordon K are not registered for use in the states of California and Florida.

Aerial Application (Helicopter Only)

Aerial sprays should be applied using suitable drift control. (See General Use Precautions and Restrictions.) Add an agriculturally labeled non-ionic surfactant as described under Directions for Use. See Maximum Labeled Rate versus Spray Volume per Acre table above for relationship between mixing rate, spray volume and maximum application rate.

Foliage Treatment (Non-Grazed Rights-of-Way)

Non-grazed areas: Use 6 to 9 lb ae of triclopyr (2 to 3 gallons of Garlon 3A) or 3 to 4 1/2 lb ae of triclopyr (1 to 1 1/2 gallons of Garlon 3A) in a tank mix combination with 1 to 2 gallons of 2,4-D 3.8 lb amine, like DMA 4 IVM, or low volatile esters or Tordon 101 Mixture, and apply in a total spray volume of 10 to 30 gallons per acre. Use the higher rates and volumes when plants are dense or under drought conditions. Tordon 101 Mixture is not registered for use in the states of California and Florida.

Interspersed areas in non-grazed rights-of-ways that may be subject to grazing may be spot treated if the treated area comprises no more than 10% of the total grazable area.

Forest Management Applications

For best control from broadcast applications of Garlon 3A, use a spray volume which will provide thorough plant coverage. Recommended spray volumes are usually 10 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. To improve spray coverage of spray volumes less than 50 gallons per acre, add an agriculturally labeled non-ionic surfactant as described under Directions for Use. Application systems should be used to prevent hazardous drift to off-target sites. Nozzles or additives that produce larger droplets of spray may require higher spray volumes to maintain brush control.

Forest Site Preparation (Not for Conifer Release)
Use up to 6 lb ae of triclopyr (2 gallons of Garlon 3A) and apply in a total spray volume of 10 to 30 gallons per acre or Garlon 3A at 3 to 4 1/2 lb ae of triclopyr (1 to 1 1/2 gallons of Garlon 3A) may be used with 1 to 2 gallons of Tordon 101 Mixture or 2,4-D 3.8 lb low volatile ester in a tank mix combination in a total spray volume of 10 to 30 gallons per acre. Use a non-ionic agricultural surfactant for all foliar applications as described under Directions for Use. Tordon 101 Mixture is not registered for use in the states of California and Florida.

Note: Conifers planted sooner than one month after treatment with Garlon 3A at less than 4 lb ae of triclopyr (1 1/3 gallons of Garlon 3A) per acre or sooner than two months after treatment at 4 to 9 lb ae of triclopyr (1 1/3 to 3 gallons of Garlon 3A) per acre may be injured. When tank mixtures of herbicides are used for forest site preparation, labels for all products in the mixture should be consulted and the longest recommended waiting period before planting observed.

Directed Spray Applications for Conifer Release
To release conifers from competing hardwoods such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, hickory, alder, birch, aspen, and pin cherry, mix 3 to 6 lb ae of triclopyr (1 to 2 gallons of Garlon 3A) in enough water to make 100 gallons of spray mixture. To improve spray coverage, add an agriculturally labeled non-ionic surfactant as described under Directions for Use. The spray mixture should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any time after hardwoods have reached full leaf size, but before autumn coloration. The majority of treated hardwoods should be less than 6 feet in height to ensure adequate spray coverage. Care should be taken to direct spray away from contact with conifer foliage, particularly foliage of desirable pines.

Note: Spray may cause temporary damage and growth suppression where contact with conifers occurs; however, injured conifers should recover and grow normally. Over-the-top spray applications can kill pines.

Broadcast Applications for Conifer Release in the Northeastern United States
To release spruce, fir, red pine and white pine from competing hardwoods, such as red maple, sugar maple, striped maple, alder, birch (white, yellow or gray), aspen, ash, pin cherry and *Rubus* spp. and perennial and annual broadleaf weeds, use Garlon 3A at rates of 1 1/2 to 3 lb ae of triclopyr (2 to 4 quarts of Garlon 3A) per acre alone or with 2,4-D amine, like DMA 4 IVM, or 2,4-D ester to provide no more than 4 lb ae per acre from both products. Apply in late summer or early fall after conifers have formed their over wintering buds and hardwoods are in full leaf and prior to autumn coloration.

Broadcast Applications for Douglas Fir Release in the Pacific Northwest and California
To release Douglas fir from susceptible competing vegetation such as broadleaf weeds, alder, blackberry or Scotch broom, apply Garlon 3A at 1 to 1 1/2 lb ae of triclopyr (1 1/3 to 2 quarts of Garlon 3A) per acre alone or in combination with 4 lb per acre of atrazine. Mix all sprays in a water carrier with a non-ionic surfactant. Apply in early spring after hardwoods begin growth and before Douglas fir bud break ("early foliar" hardwood stage) or after Douglas fir seasonal growth has "hardened off" (set winter buds) in late summer, but while hardwoods are still actively growing. When treating after Douglas fir bud set, apply prior to onset of autumn coloration in hardwood foliage. **Note:** Treatments applied during active Douglas fir shoot growth (after spring bud break and prior to bud set) may cause injury to Douglas fir trees.

Cut Surface Treatments

Individual plant treatments such as basal bark and cut surface applications may be used on any use site listed on this label at a maximum use rate of 2.67 gallons of Garlon 3A (8 lb ae of triclopyr) per acre. These types of applications are made directly to ungrazed parts of plants and, therefore, are not restricted by the grazing maximum rate of 2/3 of a gallon of Garlon 3A (2 lb ae of triclopyr) per acre.

To control unwanted trees of hardwood species such as elm, maple, oak and conifers in labeled sites, apply Garlon 3A, either undiluted or diluted in a 1 to 1 ratio with water, as directed below.

With Tree Injector Method
Apply by injecting 1/2 milliliter of undiluted Garlon 3A or 1 milliliter of the diluted solution through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. **Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is injected directly into plants.**

With Hack and Squirt Method
Make cuts around the tree trunk at a convenient height with a hatchet or similar equipment so that the cuts overlap slightly and make a continuous circle around the trunk. Spray 1/2 milliliter of undiluted Garlon 3A or 1 milliliter of the diluted solution into the pocket created between the bark and the inner stem/trunk by each cut.

With Frill or Girdle Method
Make a single girdle through the bark completely around the tree at a convenient height. The frill should allow for the herbicide to remain next to the inner stem and absorb into the plant. Wet the cut surface with undiluted or diluted solution.

Both of the above methods may be used successfully at any season except during periods of heavy sap flow of certain species - for example, maples.

Stump Treatment
Spray or paint the cut surfaces of freshly cut stumps and stubs with undiluted Garlon 3A. The cambium area next to the bark is the most vital area to wet.

Christmas Tree Plantations

Use Garlon 3A for the control of woody plants and annual and perennial broadleaf weeds in established Christmas tree plantations. For best results, apply when woody plants and weeds are actively growing. Garlon 3A does not control weeds which have not emerged at the time of application. If lower rates are used on hard to control woody species, resprouting may occur the year following treatment. Brush over 8 feet tall is difficult to treat efficiently using hand equipment such as backpack or knapsack sprayers. When treating large brush or trees or hard to control species such as ash, blackgum, choke cherry, elm, hazel, madrone, maples, oaks or sweetgum, and for applications made during drought conditions or in late summer when the leaves are mature, use the higher rates of Garlon 3A or use cut surface application methods. For foliar applications, apply in enough water to give uniform and complete coverage of the plants to be controlled. Applications made under drought conditions may provide less than desirable results.

Use Precautions:

- Do not use on newly seeded grass until well established as indicated by vigorous growth and development of secondary root system and tillering
- Newly seeded turf (alleyways, etc.) should be mowed two or three times before any treatment with Garlon 3A.
- Do not reseed Christmas tree areas treated with Garlon 3A for a minimum of three weeks after application.
- Do not use Garlon 3A if legumes, such as clover, are present and injury cannot be tolerated.

Spray Preparation

The order of addition to the spray tank is water, drift control agent (if used), non-ionic agricultural surfactant and Garlon 3A. Continue moderate agitation while mixing and spraying. Use a non-ionic agricultural surfactant for all applications. When using surfactants, follow use directions and precautions listed on the manufacturer's label. Use the higher recommended concentrations of surfactant in the spray mixture when applying lower spray volumes per acre.

Application

Apply in late summer or early autumn after terminal growth of Christmas trees has hardened of, but before leaf drop of, target weeds. Apply at a rate of 3/4 to 1 3/4 lb ae of triclopyr (2 to 5 pints of Garlon 3A) per acre as a foliar spray directed toward the base of Christmas trees. Use sufficient spray volume to provide uniform coverage of target plants (20 to 100 gallons per acre). **Do not apply with 2,4-D.** Application rates of Garlon 3A recommended for Christmas trees will only suppress some well established woody plants that are greater than 2 to 3 years old (see table below). Broadcast sprays may also be applied in bands between the rows of planted trees. Use spray equipment that will assure uniform coverage of the desired spray volume.

Spray solution from Garlon 3A can cause needle and branch injury to Christmas trees. To minimize injury to Christmas trees, direct sprays so as to minimize contact with foliage. Blue spruce, white spruce, balsam fir and Frasier fir are less susceptible to injury than white pine and Douglas fir.

Restriction: Apply Garlon 3A only to established Christmas trees that were planted at least one full year prior to application.

Application Rates and Species Controlled:

Garlon 3A		
2 pints/acre (3/4 lb ae of triclopyr)	3 to 4 pints/acre (1 1/2 lb ae of triclopyr)	5 pints/acre (1 3/4 lb ae of triclopyr)
clover dandelion dock, curly lambsquarters lespedeza plantain, broadleaf plantain, buckhorn ragweed, common vetch	bindweed, field (TG) blackberry[1] chicory (S) fireweed ivy, ground lettuce, wild oxalis poison ivy smartweed (TG) thistle, Canada (TG) violet, wild Virginia creeper[†]	arrowwood (SDL) aspen beech (SDL) birch (SDL) chinquapin cottonwood (SDL) elderberry grape, wild mulberry (SDL) poplar (SDL) sassafras (SDL) sumac (SDL) sycamore (SDL)

(TG) Top growth control, retreatment may be necessary
(S) Suppression
(SDL) Seedlings less than 2 to 3 years old
[1]Use 4 pint per acre rate

Directed Applications

To control hardwoods such as red maple, sugar maple, striped maple, sweetgum, red and white oaks, ash, alder, birch, aspen, and pin cherry, mix 4 to 20 fl oz of Garlon 3A in enough water to make 3 gallons of spray mixture. For directed applications, do not exceed 6 lb ae of triclopyr (2 gallons of Garlon 3A) per acre per year. To improve coverage, add a non-ionic agricultural surfactant to the spray. This spray mixture should be directed onto foliage of competitive hardwoods using knapsack or backpack sprayers with flat fan nozzles or equivalent any time after hardwoods have reached full leaf size, but before autumn coloration (when plants are actively growing). The majority of treated hardwoods should be less than 8 feet in height to ensure adequate spray coverage. **Note:** To prevent Christmas tree injury, care should be taken to direct spray away from contact with Christmas tree foliage.

Cut Surface Treatments

When treating large brush or trees or hard to control species such as ash, blackgum, choke cherry, elm, hazel, madrone, maples, oaks, salt cedar or sweetgum, and for applications made during drought conditions or in late summer when the leaves are mature, use cut surface treatments. (See directions for Cut Surface Treatments in preceding section of this label.)

Wetland Sites in Production Forests and Industrial Non-Crop Areas

Garlon 3A may be used within production forests and industrial non-crop sites to control target vegetation in and around standing water sites, such as marshes, wetlands, and the banks of ponds and lakes and transition areas between upland and lowland sites.

For control of woody plants and broadleaf weeds in these sites, follow use directions and application methods on this label for forestry and non-cropland sites.

Use Precautions:

Minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. **Note:** Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

®Trademark of Dow AgroSciences LLC

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-101-039
Replaces Label: D02-101-038
LOES Number: 010-00084

EPA accepted 01/03/06

APPENDIX A.3 - REFERENCE HERBICIDE LABELS - CLOPYRALID

Product Bulletin

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Transline®

EPA Reg. No. 62719-259

2(ee) Recommendation†

For Distribution and Use Only in the State of Oregon

Use Recommendations for Exported Grass Hay

ATTENTION

† **This recommendation is made as permitted under FIFRA Section 2(ee) and has not been submitted to or approved by the EPA.**

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- Read the label affixed to container for Transline® specialty herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Except as specified in this product bulletin, use of Transline is subject to all use precautions and limitations imposed by the label affixed to the container for Transline.

Directions for Use

This product bulletin should be followed if the target grass crop will be exported to clopyralid-sensitive destinations.

Timing of Application	Spring Cutting	Fall Cutting	Spring Cutting Subsequent Year[1]	Fall Cutting Subsequent Year[1]
before spring cutting	do not export	may be exported	may be exported	may be exported
after spring cutting	N/A	do not export	may be exported	may be exported
after fall cutting	N/A	N/A	may be exported	may be exported

N/A – not applicable

[1]If no clopyralid applications are made in subsequent year.

- Fall applications should be made while grass and weeds are actively growing.
- Fall applications should be made as close to last cutting as possible in order to reduce clopyralid residues in hay the following year.
- Adequate soil moisture, particularly with fall applications, will help weed control as well as reduce clopyralid residues in hay.
- In areas where three cuttings can be made, avoid exporting the first cutting after a clopyralid application.

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R113-004
Issued: 06/16/06
Initial printing

Supplemental Labeling

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Transline*

EPA Reg. No. 62719-259

24 (c) Special Local Need Registration
For Distribution and Use Only in the State of California

Control Of Canada Thistle, Bull Thistle, Musk Thistle, Yellow Starthistle, and Spotted and Diffuse Knapweeds In Forest Sites

ATTENTION

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Transline before applying. Carefully follow all precautionary statements and applicable use directions.
- Use of Transline according to this supplemental labeling is subject to all use precautions and limitations imposed by the label affixed to the container for Transline.

Directions for Use

Location: Statewide

Crop/Site/Commodity: Forest Sites

Target Pest/Problem: Canada thistle, bull thistle, musk thistle, yellow starthistle, and spotted and diffuse knapweeds and other sensitive broadleaf weed species on forest sites either at site preparation or after trees are planted (conifer release).

Application Rate: 1/3 to 2/3 pt/acre. Use of lower rates may result in suppression of weeds and not completely control the infestation.

Dilution Rate: Broadcast in 5 or more gallons of water per acre.
Method of Application: Ground, aerial broadcast, or spot application.
Spot Application: Apply Transline at an equivalent broadcast rate of 2/3 pt/acre. Direct spray onto weeds and avoid spraying trees where possible.

Application Timing for Crop: Transline may be applied anytime during the season, however some needle curling may occur if applied during active conifer growth. Transline can be applied over the top of Douglas-fir, ponderosa pine, lodgepole pine, Scotch pine, white pine, grand fir, noble fir, Pacific silver fir, incense cedar, western red cedar, and western hemlock at any time during the growing season when weeds are actively growing.

24(c) Registrant: Dow AgroSciences LLC
9330 Zionsville Rd.
Indianapolis, IN 46268

EPA SLN No.: CA-990010

Application Timing for Weeds:
General: Apply when weeds are small and actively growing.
Canada Thistle: For best results, apply after the majority of basal leaves have emerged, up to early bud stage. Treatments applied prior to the emergence of the majority of basal leaves or at later growth stages may result in only partial control.
Bull thistle, musk thistle, yellow starthistle, and spotted and diffuse knapweeds: For best results, apply from rosette to bolting stage of growth.

Tank-Mixing: Transline may be applied in tank mix combination with Garlon* 4, Garlon 3A, 2,4-D, atrazine, Oust or Velpar DF herbicides as per label directions for forest site uses. Carefully follow applicable directions for use, precautions and limitations on the product labels of each tank mix product used, because products other than Transline may cause injury when Transline could be used alone without injury.

Other requirements:
- There are no grazing restrictions following Transline applications when used at labeled rates.
- Applications of Transline over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of Transline. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- True firs (grand, noble, and pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Do not use in forest nursery beds.

*Trademark of Dow AgroSciences LLC
A2A / Transline / CA 24(c) in Forestry Sites / 03-02-99
D06-113-001
Accepted: 06/16/99
Initial Printing

Specimen Label

Dow AgroSciences™

Transline®

Specialty Herbicide

®Trademark of Dow AgroSciences LLC

For control of broadleaf weeds and woody brush species in non-crop areas, forest sites, industrial manufacturing and storage sites, rights-of-way, and wildlife openings, including grazed areas on these sites, tree plantations, and rangeland and permanent grass pastures.

Active Ingredient:
clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid, monoethanolamine salt 40.9%
Other Ingredients 59.1%
Total 100.0%

Acid Equivalent:
3,6-dichloro-2-pyridinecarboxylic acid - 31% (3 lb/gal)

EPA Reg. No. 62719-259

Keep Out of Reach of Children

CAUTION PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation • Harmful If Absorbed Through Skin

Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Wear long-sleeved shirt and long pants, socks, shoes, and gloves.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.

Clopyralid is a chemical which can travel (seep or leach) through soil and under certain conditions contaminate groundwater which may be used for irrigation or drinking purposes. Users are advised not to apply clopyralid where soils have a rapid to very rapid permeability throughout the profile (such as loamy sand to sand) and the water table of an underlying aquifer is shallow, or to soils containing sinkholes over limestone bedrock, severely fractured surfaces, and substrates which would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

Physical or Chemical Hazards

Combustible. Do not use or store near heat or open flame.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: For applications to fallow cropland, rangeland, pasture, and non-crop areas, do not enter treated areas until sprays have dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves made of any waterproof material, long-sleeved shirt, long pants, shoes and socks.

Storage and Disposal

Do not contaminate water, food or feed by storage and disposal.
Pesticide Storage: Store above 28°F or warm to 40°F and agitate before use.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

Storage and Disposal (Cont.)

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers 5 gallons or larger:
Container Reuse: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers 5 gallons or larger:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information

Transline® specialty herbicide is recommended for postemergence control of broadleaf weeds and woody brush species in non-crop areas including equipment pathways, industrial manufacturing and storage sites, forest sites and rights-of-way, such as along roadsides, electrical lines and railroads. Use on these sites may include application to grazed areas as well as establishment and maintenance of wildlife openings, wild parkland and wildlife management areas, and forest spot application adjacent to these sites. Transline is labeled for control of broadleaf weeds in cottonwood/poplar and eucalyptus tree plantations; and in rangeland and permanent grass pastures in certain western states.

Precautions and Restrictions

- **In Arizona:** The state of Arizona has not approved Transline for use on plants grown for agricultural/commercial production such as on designated grazing areas.
- Use directions in Dow AgroSciences supplemental labeling may supersede directions or limitations in this labeling.
- Do not contaminate irrigation ditches or water used for irrigation or domestic purposes.
- Do not use in greenhouses.
- **In California**, the maximum application rate is 2/3 pint per acre per annual use season.
- **In Florida,** Transline can only be used for the control of kudzu in forests, utility rights-of-way, roadsides, fence lines, and other non-crop areas in the following counties: Baker, Bay, Bradford, Calhoun, Columbia, Escambia, Franklin, Gadsden, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwannee, Taylor, Union, Wakulla, Walton, and Washington.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Rotation to Broadleaf Crops:** Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay crop such as soybean or other legume indicates that no detectable clopyralid is present in the soil.
- **Grazing/Haying:** There are no restrictions on grazing or hay harvest following application of Transline at labeled rates.
- **Do not transfer livestock** from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated pasture (or feeding of untreated hay). If livestock are transferred within less than 7 days of grazing untreated pasture or eating untreated hay, urine and manure may contain enough clopyralid to cause injury to sensitive broadleaf plants.
- Some desirable broadleaf plants (forbs) are susceptible to Transline. Do not spray pastures containing desirable forbs, especially legumes, unless injury can be tolerated. However, the stand and growth of established perennial grasses is usually improved after treatment, especially if rainfall is adequate for active plant growth and grazing is deferred.
- Established grasses are tolerant to Transline, but new grass seedlings may be injured to varying degrees until well established as evidenced by development of secondary roots and tillering (multiple stems).
- Do not use hay or straw from treated areas for garden mulch on susceptible broadleaf crops.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. Field bioassay at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, wait 1 year before repeating bioassay or plant a crop tolerant to clopyralid such as barley, canola (rapeseed), grasses, field corn, oats, sugar beets, or wheat.

Avoiding Injury to Non-Target Plants

This product can affect susceptible broadleaf plants directly through foliage and indirectly by root uptake from treated soil. Therefore, do not apply Transline directly to, or allow spray drift to come in contact with, vegetables, flowers, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other desirable broadleaf crops or ornamental plants. Small areas of new legume seedlings should be established prior to seeding more extensive areas in order to determine if phytotoxic residues are present in the soil of previously treated areas at levels that could inhibit legume establishment.

Unless otherwise specified on this label or supplemental labeling for Transline, do not apply this product to any broadleaf crop or ornamental planting or to areas where sensitive plants will be planted during the same growing season. (See guidance on Rotation to Broadleaf Crops.)

Residues in Plants or Manure: Do not use plant residues, including hay or straw from treated areas, or manure or bedding straw from animals that have grazed or consumed forage from treated areas, for composting or mulching, where susceptible plants may be grown the following season. Do not spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues should be evenly incorporated or burned. Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

Avoid Spray Drift

Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible broadleaf plants during active growth or dormant periods. Use coarse sprays to minimize drift. To aid in further reducing drift, a drift control or deposition agent suitable for agricultural use may be used with this product. If used, follow all use recommendations and precautions on the product label.

Ground Application: With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible, by applying 10 gallons or more of spray per acre, by keeping the operating spray pressures at the manufacturer's minimum recommended pressures for the specified nozzle type used (low pressure nozzles are available from spray equipment manufacturers), and by spraying when the wind velocity is low (follow state regulations). Avoid application under completely calm conditions which may be conducive to air inversion. In hand-gun applications, select the minimum pressure required to obtain adequate plant coverage without forming a mist. **Do not** apply with a mist blower.

Aerial Application: With aircraft, drift can be lessened by using straight stream nozzles directed straight back; by using a spray boom no longer than 3/4 of the rotor or wing length of the aircraft; by using drift control systems or drift control additives; and, by keeping spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions.

Do not apply by aircraft when an air temperature inversion exists. Such a condition is characterized by little or no wind and lower air temperature near the ground than at higher levels. The use of a smoke device on the aircraft or continuous smoke column at or near site of application will indicate air direction and velocity, and whether a temperature inversion is present, as indicated by horizontal layering of the smoke.

Sprayer Clean-Out
To avoid injury to desirable plants, equipment used to apply Transline should be thoroughly cleaned before reusing to apply any other chemicals.

1. Rinse and flush application equipment thoroughly at least 3 times with water after use. Dispose of rinse water in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.

Mixing Instructions

Water Dilution - To prepare a water dilution of Transline® specialty herbicide:
1. Add 3/4 of the required spray volume to the spray tank and start agitation.
2. Add the required amount of Transline.
3. Add any surfactants, adjuvants or drift control agents according to manufacturer's label.
4. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

Note: Allow time for thorough mixing of each spray ingredient before adding the next. If allowed to stand after mixing, agitate spray mixture before use.

Tank Mixing
This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:
- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of Transline and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in the required order and their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Application Directions

Application Timing
Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, or following application may reduce weed control. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control. Applications of Transline are rainfast within 2 hours after application.

Application Rates
Generally, application rates at the lower end of the recommended rate range will be satisfactory for young, succulent growth of susceptible weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or larger weeds), the higher rates within the rate range will be needed.

Use of Adjuvants
Addition of surfactants, crop oils, or other adjuvants may increase effectiveness of Transline. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

Spray Coverage
Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 2 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 gallons or more per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoiding Injury to Non-Target Plants.

Cut Surface Treatments
Apply Transline in rights-of-way and other non-crop areas to control unwanted trees and vines in the legume family such as mimosa, locust, redbud, or wisteria. Transline can be used either undiluted or diluted in a 1 to 1 ratio with water, as directed below.

With Tree Injector Method: Applications should be made by injecting 1/2 milliliter of undiluted Transline or 1 milliliter of the diluted solution through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. **Note:** No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is injected directly into plants.

With Hack and Squirt Method: Make cuts with a hatchet or similar equipment at intervals of 3 to 4 inches between centers at a convenient height around the tree trunk. Spray 1/2 milliliter of undiluted Transline or 1 milliliter of the diluted solution into each cut.

With Frill or Girdle Method: Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with undiluted or diluted solution.

Stump Treatment
Spray or paint the cut surfaces of freshly cut stumps and stubs with a 50/50 mix of Transline and water. The cambium area next to the bark is the most vital area to wet. This should be done as soon as the tree or vine has been cut.

Broadleaf Weeds Controlled

acacias
artichoke, Jerusalem
buckwheat, wild
buffalobur[1]
burdock, common
chamomile, false (scentless)
chamomile, mayweed (dogfennel)
clover, black medic
clover, hop
clover, red
clover, white
cocklebur, common
coffeeweed
cornflower (bachelor button)
dandelion
dock, curly
groundsel, common
hawksbeard, narrowleaf
hawkweed, orange
hawkweed, yellow
horseweed
jimsonweed
knapweed, diffuse
knapweed, Russian[1]
knapweed, spotted
ladysthumb[1]
lettuce, prickly
locoweed, white
locoweed, lambert
marshelder
mesquite
nightshade, eastern black
nightshade, cutleaf
nightshade, hairy
oxeye daisy
pineappleweed
ragweed, common
ragweed, giant
salsify, meadow (goatsbeard)
sicklepod
smartweed, green[1]
sorrel, red
sowthistle, annual
sowthistle, perennial[1]
starthistle, yellow
sunflower (common and wild)
teasel, common
thistle, artichoke
thistle, bull
thistle, Canada (rosette to bud)
thistle, musk (rosette to bud)
thistle, Italian
vetch

[1] These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after treatment. For perennial weeds such as Russian knapweed and perennial sowthistle, Transline will control the initial top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, Transline may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsistent due to inherent variability in shoot regrowth from perennial root systems.

Woody Plants and Vines Controlled

eastern redbud
kudzu
locust (spp)
mimosa (silktree)
wisteria

Broadleaf Weeds Controlled (California Only)

knapweed, diffuse
knapweed, Russian[1]
knapweed, spotted
starthistle, yellow
thistle, artichoke
thistle, Canada (rosette to bud)
thistle, Italian
thistle, musk (rosette to bud)

[1] These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after treatment.

Non-Crop Use (All States Except California and Florida)

For use on non-crop areas, such as industrial manufacturing and storage sites, and rights-of-way, such as along roadsides, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites. **Note:** Transline® specialty herbicide is not registered for use in landscaping or on turfgrass or lawns. In Oregon, use on non-crop areas such as industrial manufacturing and storage sites is prohibited.

Broadcast Application (Ground or Aerial)
For control of broadleaf weeds, apply 1/4 to 1 1/3 pint of Transline [equivalent to 0.09 to 0.5 lb acid equivalent (ae)] per acre. Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweed is the primary pest, best results are obtained by applying 2/3 to 1 1/3 pint of Transline per acre after basal leaves are produced. Transline can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to Transline, but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

High-Volume Leaf Stem Treatment (Ground Application)
For control of broadleaves and certain woody plants (e.g., mesquite), use 1 to 3 quarts of Transline per 100 gallons of total spray. Thorough coverage is necessary for good results; therefore, apply as a complete spray-to-wet foliar application, including all leaves, stems, and root collars, but not to exceed a total application rate of more than 1 1/3 pint of Transline per acre. To minimize drift, use low spray pressure and keep sprays no higher than the tree crowns. Trees taller than 8 feet in height may be difficult to treat efficiently and obtain thorough coverage.

Unsatisfactory control may result if application is made when brush and weeds are under severe drought stress or other adverse conditions that inhibit plant growth. Environmental conditions may significantly influence results. For best results on mesquite, apply in the spring or early summer, 40 to 90 days after the first green growth appears and when soil moisture is adequate for active growth. A soil temperature of 75 to 83ºF at a depth of 12 to 18 inches is optimal for good plant kills. Soil temperature of less than 75ºF at this depth will reduce the ultimate root kill of mesquite.

Non-Crop Use (California Only)

For use on non-crop areas, such as industrial manufacturing and storage sites, and rights-of-way, such as along roadsides, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites.

Broadcast Application (Ground or Aerial)
For control of broadleaf weeds, apply 1/4 to 2/3 pint of Transline® specialty herbicide (equivalent to 0.09 to 0.25 lb ae) per acre. Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweed is the primary pest, best results are obtained by applying 2/3 pint per acre of Transline after basal leaves are produced. Spray volumes of 20 gallons or more per acre for ground roadside and right-of-way applications and spray volumes 5 gallons or more per acre for aerial applications will ensure adequate coverage. Transline can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to Transline, but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

Non-Crop Use – Kudzu Control (Florida Only)

In Florida, Transline can only be used for the control of kudzu in forests, utility rights-of-way, roadsides, fence lines, and other non-crop areas in the following counties: Baker, Bay, Bradford, Calhoun, Columbia, Escambia, Franklin, Gadsden, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwannee, Taylor, Union, Wakulla, Walton, and Washington. For postemergence control of kudzu in established plantings of tolerant tree species as a broadcast foliar spray over trees, as a banded or directed spray (in a spray volume of 10 gallons or more per acre), or as a spot application. Applications of Transline® specialty herbicide are most effective between late June and early October as long as the kudzu is actively growing and not under drought stress. The ideal application time is during vigorous growth and just prior to or during flowering. Only kudzu that has emerged at the time of application will be affected. See Application Timing section.

Broadcast Application (Ground or Aerial)
Apply at a rate of 2/3 to 1 1/3 pint of Transline (equivalent to 0.25 lb to 0.5 lb ae) per acre. Sequential applications may be made as long as the total rate per annual use season does not exceed 1 1/3 pint per acre. Do not apply more than 1 1/3 pint per acre per year. The lower rate of 2/3 pint per acre provides acceptable control of kudzu only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Spray volumes of 20 gallons or more per acre for ground roadside and rights-of-way applications and spray volumes of 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. Transline can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.

Spot Applications
Hand-held sprayers may be used for spot applications of Transline if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. When applied as a spot treatment, apply to kudzu on a spray-to-wet basis (not to runoff). Contact with foliage of cottonwood/poplar trees should be avoided or limited to lower branches. Application rates in the following table are based on an area of 1000 sq ft. Mix the amount of Transline (fl oz or mL) corresponding to the desired rate in one or more gallons of spray. To calculate the amount of Transline required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (calculation: 3500 ÷ 1000 = 3.5).

Pints of Transline per Acre Equivalent to Rates in fl oz or mL per 1000 sq ft		
2/3 pint per acre	1 pint per acre	1 1/3 pint per acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

Tank Mixing
Transline may be applied in tank mix combination with other herbicides. See Mixing Instructions section. Carefully follow applicable use directions, precautions and limitations on the product labels of each tank mix product used because products other than Transline may cause injury when Transline could be used alone without injury.

Forest Sites, Including Tree Plantings

Transline® specialty herbicide may be applied for control of certain problem weeds growing in forest sites, including tree plantings. Transline should be applied either at site preparation or after trees are planted (tree release). Applications of Transline over the top of tolerant tree species may be made anytime during the season; however, some needle/leaf curling may occur if applied during active tree growth. This effect is transient and trees should recover by the end of the same growing season or early in the following growing season.

Examples of tolerant tree species:

black walnut	green ash	Pacific silver fir	sycamore
bur oak	hackberry	ponderosa pine	virginia pine
cherry	hickory	red oak	western red cedar
cherry bark oak	hybrid aspen	red pine	western hemlock
choke cherry	hybrid poplar	Russian olive	white ash
cottonwood	incense cedar	sawtooth oak	white pine
crabapple	loblolly pine	Scotch pine	white spruce
Douglas fir	lodgepole pine	slash pine	white oak
eastern red cedar	longleaf pine	shortleaf pine	
European larch	noble fir	sugar maple	
grand fir	Norway spruce	sumac	

Broadcast Applications
Apply the required amount of Transline in 5 gallons of water or more per acre to achieve thorough and uniform spray coverage of target weeds using ground equipment or helicopter.

Transline will not control mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

Weed Species	Application Rate (pint/acre)	Application Timing
general weed control	1/4 - 1 1/3	Apply when weeds are small and actively growing. The lower rate of 1/4 pt/acre provides acceptable control of weeds only under highly favorable plant growing conditions and when weeds are no more than 3 to 6 inches tall.
knapweed, diffuse knapweed, spotted thistle, Canada	1/3 – 1 1/3	For best results, apply after the majority of basal leaves have emerged, up to early bud stage. Treatments applied prior to the emergence of the majority of basal leaves or at later growth stages may result in only partial control.
hawkweeds starthistle, yellow thistle, bull thistle, musk	2/3 – 1 1/3	For best results, apply from rosette to bolting stage of growth.
kudzu	2/3 – 1 1/3	Applications are most effective between late June and early October as long as the kudzu are actively growing and not under drought stress. The ideal time to apply is during vigorous growth and just prior to or during flowering.

Spot Applications
Spot applications should be applied at an equivalent broadcast rate. Follow instructions for hand-held sprayers below. Direct spray onto weeds and avoid spraying trees where possible.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of Transline if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1000 sq ft. Mix the amount of Transline (fl oz or mL) corresponding to the desired broadcast rate in 1 gallon or more of spray. To calculate the amount of Transline required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (calculation, 3500 ÷ 1000 = 3.5). An area of 1000 sq ft is approximately 10.5 x 10.5 yards (strides) in size.

Amount of Transline to Treat an Area of 1000 sq ft (Mix in 1 Gallon or More of Spray)		
2/3 pt/acre	1 pt/acre	1 1/3 pt/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

1 fl oz = 29.6 (30) mL

Tank Mixing
Transline may be applied in tank mix combination with Accord® Concentrate herbicide, Accord SP, Arsenal A.C., Garlon® 4 specialty herbicide, Garlon 3A, Glypro® herbicide, Glypro Plus, 2,4-D, atrazine, Oust or Velpar DF herbicides as per label directions for forest site uses. Carefully follow applicable use directions, precautions and limitations on the product labels of each tank mix product used because products other than Transline may cause injury when Transline could be used alone without injury.

Specific Use Precautions:
- Applications of Transline over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of Transline. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of Transline to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble, and pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of Transline to plants in the legume family (such as locust, redbud, mimosa and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

Rangeland and Permanent Grass Pastures

(For use in western states, including California, Colorado, Idaho, Montana, Nebraska, Nevada, Oregon, South Dakota, Utah, Washington and Wyoming ONLY)

Use Transline® specialty herbicide to control susceptible broadleaf weeds on rangeland areas or established forage grasses in permanent grass pastures. Best results on most weeds are obtained when weeds are small and actively growing (see specific information below) and application is made in 10 gallons or more per acre of water using ground equipment.

There are no grazing or haying restrictions following Transline applications when used at labeled rates.

Application Rates: Apply Transline at a rate of 1/3 to 1 1/3 pint per acre when weeds are young and actively growing. Transline may be applied as described below for control of spotted and diffuse knapweed, Canada thistle, musk thistle, yellow starthistle and suppression of Russian knapweed. Use the lower labeled application rate for young, actively growing weeds. The higher rate should be used under less favorable growing conditions or on dense weed stands and/or larger weeds. Transline may also be tank mixed with 2,4-D at 1/2 to 1 lb ae per acre where weed species present are susceptible to 2,4-D.

Weed Species	Application Rate (pint/acre)	Application Timing
thistle, musk	1/3 - 1[1]	Apply from rosette to early bolt growth stage.
thistle, artichoke thistle, Italian	1/3 – 2/3	Apply at the rosette growth stage.
starthistle, yellow	1/2 - 1	Apply from rosette to mid-bolt growth stage
knapweed, diffuse knapweed, spotted	2/3 - 1	Apply any time plants are actively growing, including fall regrowth. Optimum time is from mid bolt to late bud stage of growth.
thistle, artichoke thistle, Italian	2/3 - 1	Apply during the bolting growth stage.
thistle, Canada	2/3 - 1 1/3	Apply after the majority of basal leaves have emerged through the beginning of the bud stage. Treatment may also be applied to fall regrowth
knapweed, Russian (suppression)	1 - 1 1/3	Apply from bud to mid-flower growth stage or treat fall regrowth.

[1] Transline may be applied to musk thistle in the rosette stage at 1/3 pint per acre only when applied in tank mixture with 2,4-D at 1/2 to 1 lb ae per acre. Otherwise, apply Transline to musk thistle at 2/3 to 1 pint per acre.

Cottonwood/Poplar and Eucalyptus Tree Plantations

Transline® specialty herbicide may be used for postemergence control of labeled broadleaf weeds in new and established plantings of cottonwood/poplar and eucalyptus tree plantations. Apply as a broadcast foliar spray over trees or as a banded or directed spray at a rate of 1/3 to 2/3 pint per acre. Apply in 10 gallons or more per acre total spray volume using ground equipment only. Multiple applications may be made as long as the total rate per annual use season does not exceed 1 1/3 pint per acre. Apply to new plantings only after they are well established as indicated by several inches of new healthy growth.

Hand-Held Sprayers: Spot applications using hand-held equipment are also allowed, but contact with tree foliage should be avoided or limited to lower branches. Apply to weeds on a spray-to-wet basis with spray coverage uniform and complete. Do not spray to the point of runoff. Prepare a spray solution by adding 1/4 fl oz of Transline per gallon of water. When applied at 1 gallon of spray per 1000 sq ft, this spray concentration is equivalent to a broadcast rate of 2/3 pint per acre.

Specific Use Precautions:

- Do not tank mix Transline with other herbicides labeled for this use unless all contact with tree foliage is avoided when tank mix is applied.
- Certain broadleaf weeds, such as mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed, will not be controlled or suppressed.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for Dow AgroSciences LLC •
Indianapolis, IN 46268 U.S.A.

Label Code: D02-113-014
Replaces Label: D02-113-013
LOES Number: 010-00096

EPA accepted 3/2/04

Revisions:

1. Updated storage and disposal instructions.

Supplemental Labeling

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Transline*

EPA Reg. No. 62719-259

Control of Kudzu in Forests, Utility Rights-of-Way, Roadsides, and Other Non-Crop Areas

ATTENTION

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Transline* herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Use of Transline according to this supplemental labeling is subject to all use precautions and limitations imposed by the label affixed to the container for Transline.

Directions for Use

Refer to product label for General Use Precautions, Mixing and Application instructions.

Pints of Transline per Acre Equivalent to Rates in fl oz or mL per 1000 sq ft		
2/3 pint/acre	1 pint/acre	1 1/3 pint/acre
1/4 fl oz (7.3 mL)	3/8 fl oz ((11 mL)	1/2 fl oz (15 mL)

Application Timing
For control of kudzu, apply Transline between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply Transline is during vigorous growth and just prior to or during flowering. For best results on control of all other labeled weed species, apply Transline when weeds are small and actively growing. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following time of application may reduce weed control. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

The treatment with Transline will be rainfast within 2 hours after application.

Tank Mixtures
Transline may be tank mixed with labeled rates of other herbicides provided the tank mix product is labeled for the timing and method of application for theust site to be treated and tank mixing is not prohibited by the label of the tank mix product. Carefully follow applicable directions for use, precautions and limitations on the label of each product use; tank mixtures with other products may cause plant injury.

Broadcast Application (Ground or Aerial)
Apply at a rate of 2/3 to 1 1/3 pt/acre of Transline. Sequential applications may be made as long as the total rate per annual use season does not exceed 1 1/3 pt/acre. The lower rate of 2/3 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Spray volumes of 20 gallons or more per acre for ground, roadside and rights-of-way applications and spray volumes of 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. Transline can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.

Spot Applications to Control Labeled Weed Species
Hand held sprayers may be used for spot applications of Transline if care is taken to apply the spray

uniformly and at a rate equivalent to a broadcast application. When applied as a spot treatment, apply to weeds on a spray-to-wet basis (not to runoff). Contact with foliage of cottonwood/poplar trees should be avoided or limited to lower branches. Application rates in the following table are based on an area of 1000 sq ft. Mix the amount of Transline (fl oz or mL) corresponding to the desired rate in one or more gallons of spray. To calculate the amount of Transline required for larger areas, multiply the table value (fl oz or mL) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (calculation: 3500 ÷ 1000 = 3.5).

Use Precautions and Restrictions:

- **Chemigation:** Do not apply this product through any type of irrigation system.
- There are no grazing restrictions following application of Transline when used at labeled rates.
- Applications of Transline over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of Transline. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of Transline to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble, and Pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of Transline to plants in the legume family (such as locust, mimosa, redbud, and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

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Product Bulletin

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Transline®

EPA Reg. No. 62719-259

2(ee) Recommendation†

For Distribution and Use Only in the State of Washington

Use Recommendations for Exported Grass Hay

ATTENTION

† **This recommendation is made as permitted under FIFRA Section 2(ee) and has not been submitted to or approved by the EPA.**

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- Read the label affixed to container for Transline® specialty herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Except as specified in this product bulletin, use of Transline is subject to all use precautions and limitations imposed by the label affixed to the container for Transline.

Directions for Use

This product bulletin should be followed if the target grass crop will be exported to clopyralid-sensitive destinations.

Timing of Application	Spring Cutting	Fall Cutting	Spring Cutting Subsequent Year[1]	Fall Cutting Subsequent Year[1]
before spring cutting	do not export	may be exported	may be exported	may be exported
after spring cutting	N/A	do not export	may be exported	may be exported
after fall cutting	N/A	N/A	may be exported	may be exported

N/A – not applicable

[1]If no clopyralid applications are made in subsequent year.

- Fall applications should be made while grass and weeds are actively growing.
- Fall applications should be made as close to last cutting as possible in order to reduce clopyralid residues in hay the following year.
- Adequate soil moisture, particularly with fall applications, will help weed control as well as reduce clopyralid residues in hay.
- In areas where three cuttings can be made, avoid exporting the first cutting after a clopyralid application.

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Product Bulletin

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Transline®

EPA Reg. No. 62719-259

2(ee) Recommendation†

For Distribution and Use Only in the State of Wisconsin

Basal Application for Suppression and Control of Woody Plants

ATTENTION

† **This recommendation is made as permitted under FIFRA Section 2(ee) and has not been submitted to or approved by the EPA.**

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- Read the label affixed to container for Transline® specialty herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Except as specified in this product bulletin, use of Transline is subject to all use precautions and limitations imposed by the label affixed to the container for Transline.

This guide provides background and instructions on the use of Transline to suppress or control the growth of woody plants. Users should read and follow applicable use directions on the label attached to the product container for Transline.

Mixing and Application Timing

To suppress or control susceptible legume woody plants (for example, black locust) with stems equal to or less than 4 inches in diameter, mix 5 to 10 gallons of Transline in enough Bark Oil EC to make 100 gallons of spray mixture. Use lower rates for small stems and higher rates for larger stems. Apply with knapsack sprayer using low pressure (20 to 40 psi). A Spraying Systems Y2 nozzle should be used in warm weather and a Spraying Systems Y4 nozzle should be used in cold weather. Spray all the way around the stem to the ground line below the first branching in a 6- to 20-inch band depending upon stem diameter. Thorough wetting of the indicated area is necessary for good control. Spray in a manner that completely wets the bark, but not to the point of runoff. Old or rough bark requires more spray than smooth young bark. Do not apply to wet stems. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line.

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APPENDIX A.4 - REFERENCE HERBICIDE LABELS - FLUROXYPYR

Specimen Label

Dow AgroSciences

Vista® XRT

Specialty Herbicide

®Trademark of Dow AgroSciences LLC

For selective postemergence control of annual and perennial broadleaf weeds and woody brush in:

- **Non-cropland areas including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including grazed areas within these sites**
- **Pine plantations**

Not for Sale, Distribution, or Use in Nassau and Suffolk Counties, New York.

Active Ingredient(s):

fluroxypyr 1-methylheptyl ester: ((4-amino-3,5- dichloro-6- fluoro-2-pyridinyl)oxy)acetic acid, 1-methylheptyl ester	45.52%
Other Ingredient(s)	54.48%
Total	100.00%

Acid Equivalent: fluroxypyr: ((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy)acetic acid – 31.59% - 2.8 lb/gal

EPA Reg. No. 62719-586

Keep Out of Reach of Children

WARNING AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Substantial But Temporary Eye Injury. Wear protective eyewear • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals

Do not get in eyes or on clothing. Avoid contact with skin.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as natural rubber ≥14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This product is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as natural rubber ≥14 mil
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.
Pesticide Storage: Store above 10°F or warm and agitate before use to ensure any crystallization that may have occurred redissolves.
Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Nonrefillable containers 5 gallons or less:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Reuse: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information

Vista® XRT herbicide is a selective postemergence product for control of annual and perennial broadleaf weeds and woody brush in:

- Non-crop areas including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including grazed areas within these sites
- Pine plantations

Use Precautions and Restrictions

- Do not contaminate irrigation ditches or water used for domestic purposes.
- **Maximum Application Rate:** Do not apply more than 22 oz per acre of Vista XRT per year.
- **Grazing restrictions:** There are no grazing restrictions for livestock, including lactating or non-lactating dairy animals.
- **Harvest restrictions:** Do not harvest grass for hay or silage from treated areas within 7 days of application.
- **Slaughter restrictions:** Meat animals must be withdrawn from treated forage at least 2 days before slaughter.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **In Arizona:** The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production; such as on designated grazing areas.
- **Management of Kochia Biotypes:** Research has suggested that many biotypes of kochia can occur within a single population. While kochia biotypes can vary in their susceptibility to Vista XRT, all will be suppressed or controlled at 12 oz per acre provided application timing and growing conditions are optimal. Application of Vista XRT at rates of less than 6 fl oz per acre per acre can result in a shift to more tolerant biotypes within a population.
- Avoid applications where proximity of susceptible plants or other desirable plants is likely to result in exposure to spray or spray drift.

Avoiding Drift and Run-off to Surface Water or Adjacent Land

This product should be used strictly in accordance with the run-off and drift precautions on this label in order to minimize off-site exposure and potential effects on aquatic organisms and non-target plants.

Avoiding Runoff: Under certain conditions, this product may have a potential to run-off to surface water or adjacent land. Vegetation filter strips or treatment setbacks should be used along rivers, creeks, streams, wetlands, etc or on the downhill side of treated areas where run-off could occur to minimize water runoff.

Avoiding Injury to Non-Target Plants

Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift but the first choice should be a coarser spray category nozzle set-up. If used, follow applicable use directions and precautions on the manufacturer's label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other non-target broadleaf plants. Do not apply or otherwise permit this product or sprays containing this product to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit trees, ornamentals, shade trees or other susceptible broadleaf plants. Do not permit spray mist or drift containing this product to contact susceptible plants because even very small quantities of the spray, that may not be visible, can cause severe injury during either active or dormant periods. Do not use in or around greenhouses.

Ground Application: To minimize spray drift, apply Vista XRT in a total spray volume of 5 or more gallons per acre using spray equipment designed to produce coarse or larger droplets per ASAE S-572 standard. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

Aerial Application
Non-Cropland Areas, Including Rights-of-Way (Helicopter Only): In non-cropland, **do not** apply this product with fixed-wing aircraft.

Pine Plantations: Both fixed wing and helicopter equipment may be used to apply this product on pine plantations, but fixed wing aircraft require additional drift mitigation measures.

To minimize spray drift, apply Vista XRT in a total spray volume of 3 or more gallons per acre using spray. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray as per USDA-ARS/PAASS or nozzle manufacturer's guidelines or by using straight-stream nozzles directed straight back. Do not operate using a spray boom longer than 75% of wing span or 85% of rotor width. For fixed wing aircraft, maximum speed during application is limited to 140 mph and application height above the vegetation canopy should not exceed 10 ft.

Do not store or handle other agricultural chemicals with the same containers used for this product. Do not apply other agricultural chemicals or pesticides with equipment used to apply this product unless equipment has been thoroughly cleaned (see Sprayer Cleanup under Mixing Instructions).

Spray Drift Management (Aerial Application)

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The boom length must not exceed 75% of the fixed wing span and must be located at least 8 -10 inches below the trailing edge of the fixed wing; the boom length must not exceed 85% of the rotary blade.
2. Nozzles must always point backward parallel with the air stream and must be coarse or coarser per ASAE S-572 standard; see USDA-ARS/PAASS or nozzle manufacturer's guidelines.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Advisory Information section.

Aerial Spray Drift Advisory Information

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size:

- **Volume**-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure**-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles**-Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation**-Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type**-Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length**-For some use patterns, reducing the effective boom length to less than 75 or 85% of the wingspan or rotor length, respectively, may further reduce drift without significantly reducing swath width.
- **Application**-Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Mixing Instructions

Vista XRT Alone

Fill spray tank with water equal to 1/2 to 3/4 of the required spray volume. Add the required amount of Vista XRT, then finish filling the tank. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Tank Mixing

This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For other products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

- Undiluted Vista XRT and 2,4-D amine concentrates are not compatible and cannot be mixed together in the same supply tank when using injection equipment. Combinations of Vista XRT and 2,4-D ester are compatible for this purpose.

Tank Mix Compatibility Testing: A jar test should be done prior to tank mixing to ensure compatibility of Vista XRT and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Tank Mixing Instructions
Fill spray tank with water to 1/4 to 1/3 of the required spray volume. Start agitation. Add different formulation types in the order indicated, allowing time for complete mixing and dispersion after addition of each.

1. Add dry flowables; wettable powders; aqueous suspensions, flowables or liquids.
2. Maintain agitation and fill spray tank to 3/4 of total spray volume and then add Vista XRT and other emulsifiable concentrates and any solutions.

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

Sprayer Cleanup
To avoid injury to or exposure of nontarget crops, thoroughly clean and drain spray equipment used to apply this product after use. Cleaning should occur as soon as possible after application. Spray equipment should be cleaned by the following procedure:

1. Drain any remaining spray mixture from the spray tank and dispose of according to label disposal instructions.
2. Hose down the interior surfaces of the tank. Flush tank, hoses, boom, and nozzles with clean water for 10 minutes. Fill the tank with water and recirculate for 15 minutes. Spray part of the mixture through the hoses, boom, and nozzles and drain the tank. All rinse water must be disposed of in compliance with local, state, and federal guidelines.
3. Remove the nozzles and screens and clean separately.
4. If the spray equipment will be used on crops other than those labeled for this product, repeat steps 1 and 2 and thoroughly wash the outside of spray tank and the boom.

Application Instructions

Application Timing
Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at and following time of application may reduce weed control and increase the risk of non-target plant injury. **Only weeds that are emerged at the time of application will be affected.** Foliage that is wet at the time of application may decrease control. Applications of Vista XRT are rain-fast within 1 hour after application.

Effect of Temperature on Herbicidal Activity
Herbicidal activity of Vista XRT is influenced by weather conditions. Optimum activity requires active plant growth. The temperature range for optimum herbicidal activity is 55°F to 85°F. Reduced activity will occur when temperature is below 45°F. Frost before application (3 days) or shortly after (3 days) may reduce weed control.

Application Rate Ranges
Generally, application rates at the lower end of the specified rate range will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or larger weeds) the higher rates within the rate range will be needed. Weeds growing in the absence of competition from other vegetation generally require higher rates to obtain satisfactory control or suppression.

Spray Coverage
Apply in a spray volume of 3 or more gallons per acre by air or 5 or more gallons per acre by air or ground equipment. Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Inadequate spray volume and coverage may result in decreased weed control. As canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use larger nozzle tips or decrease spraying speed to increase spray volume rather than increasing boom pressure. Refer to manufacturer's recommendations for information on relationships between spray volume, and nozzle size and arrangement.

Spot Treatments
Spot treatments may be applied with a calibrated boom or with hand sprayers according to directions provided below.

Hand-Held Sprayers: Hand-held or backpack sprayers may be used for spot applications of Vista XRT if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based an area of 1,000 sq ft. The amount of Vista XRT (fl oz or ml) in the table should be mixed with 1 gallon or more of water and applied to an area of 1,000 sq ft. To calculate the amount of product required for larger areas, multiply the table value (fl oz or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (Calculation: 3,500 ÷ 1,000 = 3.5). An area of 1000 sq ft is approximately 10.5 X 10.5 yards in size.

Amount of Vista XRT to Equal Specified Broadcast Rate (Mix with 1 Gallon or More of Water and Apply to 1,000 sq ft)				
6 fl oz/ acre	**9 fl oz/ acre**	**12 fl oz/ acre**	**17 fl oz/ acre**	**22 fl oz/ acre**
0.14 fl oz (4.1 ml)	0.21 fl oz (6.2 ml)	0.28 fl oz (8.3 ml)	0.4 fl oz (11.7 ml)	0.56 fl oz (16.5 ml)

1 fl oz = 29.6 (30) ml

Weeds Controlled or Suppressed

(Numbers in parentheses (-) refer to footnotes):

Weeds Controlled			Weeds Suppressed (3)
6 – 12 fl oz/acre	12 fl oz/acre	22 fl oz/acre	22 fl oz/acre
bedstraw (cleavers)	chickweed	blackberry	buckhorn plantain
common purslane	cocklebur	catsear	common mullein
hairy buttercup	coffeeweed, common ragweed	giant ragweed	cudweed
hemp dogbane	curly dock	goldenrod	field bindweed
kochia (1), (2), (4)	cutleaf primrose	henbane	field horsetail
marshelder (2)	dandelion	hop clover	field pennycress
sericea lespedeza (2)	dogfennel	horsenettle	leafy spurge
tropic croton	grape	ironweed	mustard
	horseweed/marestail	lantana	narrowleaf plantain
	morningglory	musk thistle	nightshade species
	prickly lettuce	wild carrot	spiny amaranth
	sunflower		wild buckwheat
	vetch		yellow thistle
	velvetleaf		
	venice mallow		
	western ragweed		
	white clover		
	white cockle		

(1) Includes herbicide tolerant or resistant biotypes.
(2) Use the higher rate in the range to control these weeds.
(3) Suppression is expressed as a reduction in weed competition (reduction population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.
(4) The addition of a methylated seed oil surfactant (i.e. MSO or ESO) at the rate of 1-2 quarts per acre is recommended for control of kochia. For kochia infestations with larger plants at more advanced growth stages, increasing the rate of Vista XRT to 13 - 17 fl oz or the addition of 1-2 quarts per acre of 2,4-D along with the 1-2 quarts per acre of methylated seed oil will improve control.

Specific Use Directions

Non-Cropland and Pine Plantations

(Including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including grazed areas within these sites)

Precautions for Use in Pine Plantations:
Do not apply Vista XRT to pine plantations as an over-the-top broadcast treatment during active terminal growth (from initiation of budbreak/growth flush until seasonal terminal growth has hardened off and over-wintering buds have formed). Directed spray applications may be made to pine plantations during periods of active growth, but care should be taken to avoid spray contact with actively growing foliage.

Do not apply Vista XRT in tank mix combination to pine plantations unless the tank mix product is labeled for weed or brush control in pines by the application method being employed.

Apply at the broadcast rate of 6 to 22 fl oz per acre when weeds are small and/or actively growing. Split applications of Vista XRT herbicide may be made during a single year, provided the total amount of Vista XRT applied does not exceed the maximum-labeled rate of 22 fl oz per acre. See listing of Weeds Controlled or Suppressed at end of General Information Section.

Spot treatments should be applied at rates and spray volumes equivalent to broadcast application. See instructions for "Spot Application" above.

Brush Control: Vista XRT may be tank-mixed with Garlon® 4 herbicide, Garlon 3A herbicide, Accord® SP herbicide, Accord XRT herbicide, Tordon® K herbicide or Tordon 101M herbicide at indicated rates to increase control of pine species, shingle oak, red maple, red oak and other woody species.

Products in Tank Mix	Application Rates	Woody Plants Controlled
Vista XRT + Garlon 4	17 - 22 fl oz + 2 - 3 qt/acre	bay species black cherry dogwood water oak willow oak
Vista XRT + Garlon 3A	17 - 22 fl oz + 3 - 4 qt/acre	bay species black cherry dogwood water oak willow oak
Vista XRT + Garlon 3A + Tordon 101M	17 - 22 fl oz + 2 - 4 qt/acre + 4 - 8 qt/acre	pine species red maple red oak shingle oak Virginia pine water oak
Vista XRT + Garlon 3A + Tordon K	17 - 22 fl oz + 4 qt/acre + 2 qt/acre	pine species red maple red oak shingle oak Virginia pine water oak
Vista XRT + Accord® SP or Accord XRT herbicide	17 - 22 fl oz + 4 - 6 qt/acre	dogwood gallberry pines wax myrtle

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Specimen Label

RESTRICTED USE PESTICIDE
May Injure (Phytotoxic) Susceptible, Non-Target Plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.

Dow AgroSciences™

Surmount®

Herbicide

®Trademark of Dow AgroSciences LLC

For the control of woody plants and annual and perennial broadleaf weeds in rangeland and permanent grass pastures, fencerows, non-irrigation ditchbanks, and around farm buildings.

Active Ingredients:

picloram: 4-amino-3,5,6-trichloropicolinic acid triisopropanolamine salt	13.24%
fluroxypyr 1-methylheptyl ester: [(4-amino-3,5-dichloro-6-fluoropyridin-2-yl)oxy]acetic acid	10.64%
Other Ingredients	76.12%
Total	100.00%

Picloram triisopropanolamine salt - 1.19 lb/gal (0.67 lb ae/gal)
Fluroxypyr 1-methylheptyl ester – 0.96 lb/gal (0.67 lb ae/gal)

Contains petroleum distillates.

EPA Reg. No. 62719-480

Keep Out of Reach of Children

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Corrosive • Causes Irreversible Eye Damage

Avoid contact with skin. Do not get in eyes or on clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F or G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear (Goggles, face shield or safety glasses)

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

- Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-992-5994 for emergency medical treatment information.

Note to Physician: May pose an aspiration pneumonia hazard. Contains petroleum distillate. Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards

Fluroxypyr is toxic to fish, and both picloram and fluroxypyr are toxic to some plants at very low concentrations. Non-target aquatic organisms and plants may be adversely affected if this product is allowed to drift from areas of application. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes by cleaning of equipment or disposal of wastes. Do not allow run-off or spray to contaminate wells, irrigation ditches, or any body of water used for irrigation or domestic purposes. Do not make application when circumstances favor movement from treatment site.

Picloram is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Picloram can contaminate surface water through spray drift. Under some conditions, picloram may also have a high potential for runoff into surface water (primarily via dissolution in runoff water). These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not allow worker entry into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.
Pesticide Storage: If exposed to subfreezing temperatures (below 32° F), the product should be warmed to at least 40° F and agitated thoroughly before using.
Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Nonrefillable containers 5 gallons or less:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Reuse: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

General Information

Surmount® herbicide, an emulsifiable liquid product containing picloram and fluroxypyr herbicides, is recommended for the control of woody plants and annual and perennial broadleaf weeds in rangeland and permanent grass pastures, fencerows, non-irrigation ditchbanks, and around farm buildings. Surmount may be applied broadcast as a foliar spray or using individual plant treatment methods. Surmount provides both knockdown of emerged plants and residual soil activity to newly emerging susceptible plants. The duration of this soil activity depends on the species and the applied rate.

Use Precautions and Restrictions

Maximum Application Rate: Do not apply more than 3 quarts per acre of Surmount per acre per year (0.5 lb ae fluroxypyr + 0.5 lb ae picloram). When applying this product sequentially with other products containing fluroxypyr and/or picloram, do not apply more than 0.5 lb ae fluroxypyr per acre per year or more than 0.5 lb ae per acre picloram per year.

Chemigation: Do not apply this product through any type of irrigation system.

Every 2 years starting January 1, 2008, the registrant will offer training to applicators which will cover application techniques and product stewardship particular to their use(s) of this product (Surmount, EPA Registration No. 62719-480). Applicators of this product must be able to provide certification of such training on demand to the State, Tribal or Federal enforcement agent.

Grass, Forage and Tree Tolerance

- **Established grasses are tolerant to this product.**
- Do not use on bentgrass or limpo grass (*Hemarthria*), unless injury or loss of such plants can be tolerated.
- Do not use on alfalfa, or other desirable forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated. Seeding of some legumes may not be successful if done within one year of application.
- Many woody species are susceptible to this product. Trees can be affected by root uptake of the herbicide from surface soil or by excretion of the herbicide from the roots of nearby treated trees. Do not apply Surmount within the area occupied by roots of desirable trees, unless such injury can be tolerated.
- **When Reseeding Grasses:**
  - When Surmount is applied *before reseeding*, do not reseed treated areas for a minimum of three weeks after application.
  - When Surmount is applied *following reseeding*, to avoid grass injury, do not apply until grass seedlings are well established as indicated by tillering (usually after 4 true leaves have emerged), development of a secondary root system and vigorous growth.
  - Sprigged bermudagrass. Do not apply Surmount until runners (stolons) have reached at least 6 inches in length. Apply only during favorable growing conditions.

Crop Rotation

- **Within 12 months of application, do not rotate to crops other than the following**: range or pasture grasses, grasses for hay or silage, barley, oats, wheat or grain sorghum. Thereafter, other crops may be planted on treated land after an adequately sensitive bioassay shows that the risk of crop injury is within acceptable limits.

Grazing Restrictions

Grazing or harvesting green forage:

1) **Lactating dairy animals**: Do not allow lactating dairy animals to graze treated areas and do not harvest forage for consumption by lactating dairy animals within 14 days after application.
2) **Other Livestock**: There are no grazing restrictions for non-lactating dairy animals or other livestock **including horses, sheep, goats, and other animals in the treatment area.**

- **Slaughter Restrictions:** Withdraw livestock from grazing treated grass or consumption of treated hay at least 3 days before slaughter. This restriction is applicable to grazing harvested from treated areas during the same growing season following application.

Residues in Mulch, Manure and Soil

- **Do not transfer livestock** from treated grazing areas onto broadleaf crop areas without first allowing 7 days of grazing on untreated grass pasture. Otherwise, urine and/or manure from grazing animals may contain enough picloram to cause injury to sensitive broadleaf plants.
- **Do not move treated soil, or use treated soil for growing other plants** until soil residues of picloram are no longer detectable as indicated by an adequately sensitive bioassay or chemical test.
- **Do not use grass from treated areas or manure from animals being fed treated forage for composting or mulching of desirable, susceptible broadleaf plants.**

Other Precautions and Restrictions

- **Grazing of Areas Known to Contain Poisonous Plants:** Herbicide application may increase the palatability of certain plants that are poisonous to livestock. Deferment of grazing in treated areas is recommended until such plants are dry and no longer attractive to livestock.
- **Do not mix or apply this product with dry fertilizer.**
- **Do not apply this product to areas that are sub-irrigated by a shallow water table.**
- Do not apply directly to the banks of ditches used for irrigation or domestic purposes. Do not apply directly to water (see Environmental Hazards section).

Avoiding Spray Drift and Run-off to Surface Water or Adjacent Land

This product should be used strictly in accordance with the run-off and drift precautions on this label in order to minimize off-site exposure and potential effects on aquatic organisms and non-target plants.

- **Avoiding Runoff:** Under certain conditions, this product may have a potential to run-off to surface water or adjacent land. Use of vegetation filter strips or treatment setbacks is recommended along rivers, creeks, streams, wetlands, etc or on the downhill side of treated areas where run-off could occur to minimize water runoff.

- **Do not contaminate water intended for irrigation or domestic purposes.** To avoid injury to crops or other desirable plants, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes. Do not apply to snow or frozen ground. In particular, application of this product is not recommended to areas where surface runoff following heavy rainfall events soon after application would flow directly into ponds used for irrigation of sensitive broadleaf crops such as tobacco or vegetables. In such situations, it is recommended that this product be applied before the sensitive crop is planted or after it is harvested.

- **Do not use manure** from animals grazing treated areas on land used for growing broadleaf crops, ornamentals, orchards or other susceptible, desirable plants. Manure may contain enough picloram to cause injury to susceptible plants.
- **This product should not be applied in residential areas or near vegetables, fruit production, or ornamental trees and shrubs.** Untreated plants may be affected by root uptake of the herbicide following movement into the topsoil or excretion of the herbicide from the roots of nearby treated plants. Do not apply Surmount within the area occupied by roots of desirable plants, unless such injury can be tolerated.

Spray Drift: Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift, but the first choice should be a coarser spray category nozzle set-up. If used, follow applicable use directions and precautions on the manufacturer's label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other desirable broadleaf plants. Do not apply or otherwise permit this product or sprays containing this product to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit trees, ornamentals, shade trees or other susceptible broadleaf plants. Do not permit spray mist or drift containing this product to contact susceptible plants because even very small quantities of the spray, that may not be visible, can cause severe injury during either active or dormant periods. Do not use in or around greenhouses.

Ground Application: To minimize spray drift, apply Surmount in a total spray volume of 5 or more gallons per acre using spray equipment designed to produce coarse or larger droplets per ASAE S-572 standard. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Spot treatments should be applied only with a calibrated boom to prevent over application. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

Aerial Application

Rangeland and Permanent Pastures: Both fixed wing and helicopter equipment may be used to apply this product on rangeland, permanent pastures and pine plantations, but fixed wing aircraft require additional drift mitigation measures.

To minimize spray drift, apply Surmount in a total spray volume of 3 or more gallons per acre using spray. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray at per USDA-ARS/PAASS or nozzle manufacturer's guidelines or by using straight-stream nozzles directed straight back. Do not operate using a spray boom no longer than 75% of wing span or 85% of rotor width. For fixed wing aircraft, maximum speed during application is limited to 140 mph and application height above the vegetation canopy should not exceed 10 ft.

Do not store or handle other agricultural chemicals with the same containers used for this product. Do not apply other agricultural chemicals or pesticides with equipment used to apply this product unless equipment has been thoroughly cleaned.

Spray Drift Management (Aerial Application)

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outer most nozzles on the boom must not exceed 75% the length of the wingspan or 85% of rotor width.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they shall be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Advisory Information section.

Aerial Spray Drift Advisory Information

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size:

- **Volume -** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure -** Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles -** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation -** Orienting nozzles so that the spray is released parallel to the airstream produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type -** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- **Boom Length -** For some use patterns, reducing the effective boom length to less than 65% of the wingspan or rotor length may further reduce drift without significantly reducing swath width.
- **Application -** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Application Directions

Agricultural Use Requirements: Follow PPE and Reentry instructions in the "Agricultural Use Requirements" section of this label when applying this product to pastures. Otherwise follow requirements in Non-agricultural Use Requirements section.

Woody Plant Control

Applied as directed, Surmount controls or suppresses the following woody plants and vines:

acacia, twisted
aspen
blackberry
cactus species
cedar, Eastern red †
cholla
cottonwood
dogwood
elms
hackberry
hawthorn
hickory
honeysuckle
huisache
juniper, ashe
locust, black
locust, honey
maple
mulberry
myrtle, wax
Osage-orange (Bois d'arc or hedge)
persimmon, eastern
persimmon, Texas
plum, wild
poplars
pricklyash
pricklypear, lindheimer
pricklypear, plains
rose, Macartney
rose, multiflora
rose, wild
sage
sagebrush, sand
sumac, flameleaf
sumac, skunkbush
sumac, smooth
tallowtree, Chinese
tasajillo

† Plants greater than 3 feet tall will not be controlled.

Broadcast Application

General Woody Plant Control: Apply Surmount when conditions are favorable for active growth, but only after leaves are fully expanded and terminal growth has slowed. Application to immature foliage during periods of rapid terminal growth will result in rapid defoliation, but translocation of the herbicide and woody plant control may be reduced. If brush has been mowed, best results are obtained when at least 9 to 12 months regrowth following mowing is allowed before herbicide application (12 months is recommended in areas where growth conditions such as low rainfall have limited brush regrowth following mowing). Adequate soil moisture before and after treatment as well as healthy foliage at the time of application is important for optimal effectiveness. Surmount will control broadleaf plants that are emerged at the time of application, and may also suppress or control emerging seedlings.

Apply at the specified rate (3 – 6 pints per acre, unless otherwise specified) in 5 or more gallons of water per acre by air or 10 or more gallons per acre by ground equipment. Use higher spray volumes to ensure adequate foliar coverage where brush canopy is dense. If applied in tank mix, follow applicable use directions, precautions and limitations on the respective labels (See instructions for tank mixing under "Mixing Directions"). The optimal rate of Surmount will depend on brush size as well the species. For smaller brush (less than about 6 feet tall), 3-4 pints/acre will be sufficient. For larger brush and mixed brush canopies, apply 4-6 pints/acre.

Use of Surfactant: A nonionic surfactant or liquid fertilizer at 1-2 quarts per 100 gallons spray solution (0.25% – 0.5% v/v) may improve woody plant control for either broadcast or spot application, especially if plants are drought-stressed. To minimize spray drift, a drift control and deposition aid cleared for application to growing crops is also recommended.

Instructions for Specific Woody Plants:

Woody Plants Controlled	Broadcast Rate (pt/acre)	Application Timing:
Blackberry	3 – 4 †	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred. Do not treat blackberries in the same year after mowing, shredding, or burning. Even one year after removal of top growth, blackberry stands will be more difficult to control than undisturbed stands and will require retreatment.
Chinese tallowtree	3 – 6	Apply in spring or fall when conditions are favorable for plant growth. Thorough and uniform spray coverage is required. Use a spray volume of 20-25 gallons per acre for ground or 5 or more gallons per acre for aerial equipment.
Cholla, other cactus species	3 – 6	Apply in the spring or early summer using ground broadcast equipment.
Locust, black	3 – 6	Apply in spring when leaves are fully expanded and foliage is mature.
Locust, honey	3 – 4 †	Apply in spring when leaves are fully expanded and foliage is mature.
Osage-orange (Bois d'arc or Hedge)	3 – 4 †	Apply in late spring through summer to mature foliage

Instructions for Specific Woody Plants: (Cont.)

Woody Plants Controlled	Broadcast Rate (pt/acre)	Application Timing:
Persimmon	3 – 6	Apply in late summer through fall under favorable growing conditions
Prickly pear	3 – 4 [1]	Avoid application in extremely cold weather. Fall application usually most effective. Do not spray when pads or stems are wet. Mechanical injury that punctures the surface of prickly pear pads or stems immediately before application may improve control. Die back of prickly pear will be slow, and can take up to 2 to 3 years.

[1] Increase the rate to 6 pints per acre if brush is large and/or dense.

Individual Plant Treatment Methods

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
High-Volume Foliar Treatment of Individual Plants Using Ground Equipment (Not recommended for brush greater than 8 feet tall): All listed woody plants except as noted in Control of Specific Perennial Plants below	1 to 2 gallons of Surmount/100 gallons of spray (1-2 % v/v) plus 1 to 2 quarts of non-ionic surfactant

Specific Use Instructions:

General Information for Woody Plant Control: Optimum timing period is late spring, after leaves are fully expanded and terminal growth has slowed, through early fall. Application to immature foliage during periods of rapid terminal growth will result in rapid defoliation, but translocation of the herbicide and woody plant control may be reduced. Adequate soil moisture before and after treatment as well as healthy foliage (not reduced by insect or storm damage) at the time of application is important for optimal effectiveness. Avoid application during cold weather. Application is recommended when daily maximum air temperature has exceeded 50°F for three consecutive days.

For control of brush regrowth, apply only after regrowth is at least 4 ft tall to insure adequate foliage for herbicide absorption. Follow instructions for General Information for woody Plant Control above.

Application: Apply with a backpack or power sprayer using sufficient spray pressure to provide uniform plant coverage without forming a mist and direct spray no higher than tops of target woody plants. Use sufficient spray volume to uniformly wet all leaves, stems, and root collars (pad surfaces and stems in the case of prickly pear or other cactus), but avoid runoff. To minimize spray drift, a drift control additive approved for growing crops is recommended. A dye marker may be added to the spray mixture as a means of marking treated plants.

Use of a nonionic surfactant at the recommended rate (usually 0.25% to 0.5% v/v) may improve herbicidal efficacy and is recommended.

Control of Specific Woody Plants or Cactus:
Chinese tallowtree: Best results may be expected on trees under 8 feet tall. Use 0.5% to 1% (volume/volume) spray solution of Surmount. Spray between July and September, before leaves have begun to turn yellow. Wet all leaves thoroughly, especially the terminal buds of each branch. Avoid treatment when leaves or wet or during periods of rapid new growth.

Huisache: Use a 1.0% v/v solution in water. Fall application works best. Wet all leaves thoroughly, especially the terminal buds of each branch. Avoid spray when leaves or wet or during periods of rapid new growth.

Locust (black or honey): Use a 0.5% to 1.0% v/v solution of Surmount in water. Apply in spring, when leaves are mature.

Prickly pear: Use a 0.5% to 1.0% v/v solution of Surmount in water. A coarse droplet size applied with an adjustable cone nozzle is recommended. Application may be made any time of year, but fall application may be most effective. Treatment effects are slow to appear and total plant kill may require 2 to 3 years. Do not spray when the plants are wet. Mechanical injury such as bruising or puncturing of the pricklypear pad surfaces may speed up and improve control.

Macartney rose: Use a 0.5% to 1.0% v/v solution of Surmount in water. Delay treatment for 9-12 months after mowing. Apply in spring or fall to Macartney rose plants greater than 3 feet tall.

Multiflora rose: Use a 1% to 1.5% v/v solution of Surmount in water. Apply from budding through flowering. Delay treatment for 9-12 months after mowing.

Maximum Use Rate: For individual plant treatment with high-volume foliar sprays, do not apply more than 3 pints of Surmount per acre per year. This is equivalent to 37 gallons of total spray mixture per acre at the 1 gallon Surmount /100 gallons rate or 18.5 gallons of total spray mixture per acre at the 2 gallons Surmount/100 gallons rate.

Mixing Chart for High-Volume Foliar Spray
(Label rate range is 1 to 2 gallons per 100 gallons or 1-2% v/v)

Total Volume of Spray Mixture (gallons)	Amount of Herbicide Required at Specified Rate		Amount of Surfactant
	1 gal/ 100 gal (1% v/v)	2 gal/ 100 gal (2% v/v)	(0.25% v/v)
400	4 gal	8 gal	1 gallon
100	4 qt	8 qt	1 qt
50	4 pt	8 pt	1 pt
25	2 pt	4 pt	8 fl oz
14	18 fl oz	36 fl oz	4.5 fl oz
10	12.8 fl oz	25.6 fl oz	3.2 oz
5	6.4 fl oz	12.8 fl oz	1.6 fl oz
3	4 fl oz	8 fl oz	1 fl oz

Broadleaf Weed Control

General: For best results, use 1.5 pt/acre and apply when weeds are small and actively growing, but before bud stage of growth. Use 2 pt/acre when weed density is high, weed growth is mature, or conditions for plant growth are less than optimum.

Broadleaf Weeds Controlled

bedstraw (cleavers)
bindweed, field
blackberry
buckwheat, wild
buffalobur
bullnettle
bursage
(bur ragweed)
camphorweed
chickweed
clover, white
cockle, white
cocklebur
coffeeweed
coneflower,
upright prairie
croton species
dock, curly
dogfennel
(cypressweed)
garbancillo
(Wooton loco)
goldenrod
goldenweed,
common
goldenweed,
Drummond's
(*Isocoma* spp.)
grape species
groundsel
(*Senecio* spp.)
hemp dogbane
horsenettle,
Carolina (1)
horsenettle, western
horsetail, field
horseweed
ironweed,
western (2)
knotweed
kochia (3)
lambsquaters,
common
lespedeza,
sericea (4)
loco, Woolly
locoweeds
mallow, common
marestail
marshelder
(sumpweed)
morningglory
nightshade species
pennycress, field
pigweed
puncturevine
purslane, common
ragweed, common
ragweed, giant
ragweed, lanceleaf
ragweed, western
smartweed
sneezeweed, bitter
soda apple, tropical
sunflower
thistle, bull
thistle, musk (5)
thistle, plumeless (5)
thistle, Russian
thistle, scotch
thistles, biennial
thistle, yellow spine
velvetleaf
venice mallow
vervain, blue
vervain, hoary
wormwood, absinth
yankeeweed
yarrow

Numbers in parentheses (-) refer to specific use directions.

Specific Use Directions:

(1) **Horsenettle, Carolina:** Apply 1.5 to 2 pints/acre after emergence, during active growth before flowering.

(2) **Ironweed, western:** Apply at the rate of 2 - 2.5 pints per acre to fully emerged ironweed that is actively growing.

(3) **Kochia:** Apply at the rate of 2 - 2.5 pints per acre when kochia is less than 18 inches tall.

(4) **Lespedeza, sericea:** For best results, apply at the rate of 2 pints per acre in late spring to early summer after maximum foliage development, when plants are 12 - 15 inches tall, but prior to bloom stage. Increase rate to 2.5 pints per acre for dense stands or later stages of growth.

(5) **Thistle, musk and plumeless (Spring application):** Apply 1.5 to 2 pints/acre at rosette to early bolting stage. **Fall application:** Apply 2 to 2.5 pints/acre after emergence while active growth continues. (Fall application will provide some residual control into the following spring).

Application to Small Areas

Treatments may be applied with a calibrated boom or with hand-held sprayers according to directions provided below.

Hand-Held Sprayers: Hand-held sprayers may be used for applications to small areas where use of a power-operated boom sprayer is not practical. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on a treatment area of 1,000 sq ft. Mix the amount of Surmount (fl oz or ml) corresponding to the specified broadcast rate in the spray volume needed to cover 1000 sq ft. To calculate the amount of Surmount required for larger areas, multiply the table value (fl oz or ml) by the number of thousands of sq ft of area to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

Rate Conversion Table for Small Area Treatment:

1.5 pt/acre	2.0 pt/acre	2.5 pt/acre	3.0 pt/acre
0.6 fl oz (17 ml)	0.75 fl oz (22 ml)	0.9 fl oz (27.5 ml)	1.1 fl oz (33 ml)

Conversion factors: 1 pt = 16 fl oz; 1fl oz = 29.6 (30) ml

Mixing Directions

Surmount may be foliar applied by diluting with water or by preparing an oil-water emulsion. For woody plant control, an oil-water emulsion will perform more dependably under a broader range of conditions than mixing with water alone and is especially recommended for aerial applications.

Ground Application: Add oil to the spray mix at a rate of 5 to 10% of the total mix, up to a maximum of 1 gallon of oil per acre, using agricultural spray emulsifiers according to mixing instructions below.

Aerial Application: Use oil and water in the spray mixture in a 1:5 ratio (1 part oil to 5 parts water), up to a maximum of 1 gallon of oil per acre according to mixing instructions below.

Dilution with Water: For water dilutions, use of an agricultural surfactant at a minimum of 0.25% (1 quart per 100 gallons) of the total spray mix volume may be added to the spray mixture to improve wetting of foliage. A drift control and deposition aid cleared for application to growing crops is recommended to minimize spray drift.

Oil-Water Emulsion: An oil-water emulsion may be prepared using diesel fuel, fuel oil, or kerosene plus an emulsifier such as Sponto 712 or Triton X-100. Follow mixing instructions on the label for the emulsifier. To avoid mixing compatibility problems, use the jar test described below verify the compatibility of the spray mixture.

Tank Mixing

Surmount may be applied in tank mix combination with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of Surmount and other herbicides or spray carriers. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Mixing Order:

1. Add half the needed water to the mixing tank and start agitation.
2. Add water soluble herbicide (if used).
3. Prepare a premix of oil, emulsifier (if oil-water emulsion), and Surmount plus other oil-soluble herbicide (if used), e.g. 2,4-D ester. Continue agitation and add premix to the spray tank. **Note:** Do not allow water or mixtures containing water to get into the premix or Surmount since a thick "invert" (water in oil) emulsion may be formed that will be difficult to break. Such an emulsion may also be formed if the premix or Surmount is put in the mixing tank before the addition of water.
4. Add the remaining water. Also during final filling of the tank add a drift control and deposition aid cleared for application to growing crops (if used), plus an agricultural surfactant (if a water dilution rather than an oil-water emulsion spray is used).

Continuous agitation of the spray mixture during both mixing and application is necessary to ensure spray uniformity.

Mixing with Liquid Fertilizer for Broadleaf Weed Control

Surmount may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish weed control and fertilization of grass pastures in one operation. Use Surmount in accordance with recommendations for weed control in grass pastures as given on this label. Use liquid fertilizer at rates recommended by supplier or Extension Service Specialist. **Note:** Surmount is not recommended for use with liquid fertilizer on woody plants (brush). Foliage burn caused by liquid fertilizer may reduce herbicide effectiveness on woody plants.

Compatibility with Liquid Fertilizer: Prior to mixing in spray tank, conduct a "jar test" for spray mixture compatibility by mixing each component in the required order and proportion in a clear glass jar. See procedure for Tank Mixing Compatibility Testing, above. A compatibility aid such as Unite or Compex may be needed in some situations. **Compatibility is best with straight liquid nitrogen fertilizer solutions. Mixing with N-P-K solutions or suspensions may not be satisfactory even with the addition of compatibility aid.** Premixing Surmount with 1 to 4 parts water may help in difficult situations.

Fill in the spray tank about half-full with the liquid fertilizer, then add the herbicide with agitation and complete filling the tank with fertilizer. Apply immediately and continue agitation in the spray tank during application.

Precautions: Do not store liquid fertilizer spray mixtures. Application with liquid fertilizer during very cold weather (near freezing) is not advisable. The likelihood of mixing or compatibility problems with liquid fertilizer increases under cold conditions.

Note: Do not use broadcast spray equipment used for application of Surmount for other applications to susceptible crops or desirable plants, or land planted to such plants, **unless** it has been determined that all herbicide residues have been removed by thorough cleaning of the equipment.

Cleaning Instructions for Spray Equipment

To avoid injury to desirable plants, equipment used to apply Surmount should be thoroughly cleaned before reusing to apply any other chemicals.

1. Rinse and flush application equipment thoroughly after use. Flush the entire system at least three times with water, and dispose of rinse water in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 min.). Let the solution stand for several hours, preferable overnight.
3. Flush the solution out the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Nozzles and screens should be removed separately.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

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LOES Number: 010-02085

EPA accepted 10/24/08

Specimen Label

Dow AgroSciences

Vista®

Specialty Herbicide

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For selective postemergence control of annual and perennial broadleaf weeds and woody brush in:

- **Non-cropland areas including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including grazed areas within these sites**
- **Pine plantations**

Not for Sale, Distribution, or Use in Nassau and Suffolk Counties, New York.

Active Ingredient(s):
fluroxypyr 1-methylheptyl ester: ((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy) acetic acid, 1-methylheptyl ester 26.2%
Other Ingredient(s) 73.8%
Total Ingredients 100.0%

Contains petroleum distillates.

Acid Equivalent: fluroxypyr: 4-amino-3,5-dichloro-6-fluoro-2-pyridyloxyacetic acid - 18.2% - 1.5 lb/gal

EPA Reg. No. 62719-308

Keep Out of Reach of Children

WARNING AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Substantial But Temporary Eye Injury • Harmful If Swallowed Or Absorbed Through The Skin

Do not get in eyes or on clothing. Avoid contact with skin.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selections chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If In eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.
Note to Physician: May pose an aspiration pneumonia hazard. Probable mucosal damage may contraindicate the use of gastric lavage.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This product is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, feed or fertilizer by storage or disposal.
Pesticide Storage: Store above 10°F or warm and agitate before use.
Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Nonrefillable containers 5 gallons or less:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:
Container Reuse: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:
Container Reuse: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Use Directions for Broadleaf Weed and Woody Plant Control in Non-Cropland and Pine Plantations

GENERAL INFORMATION

Vista® herbicide is a selective postemergence product for control of annual and perennial broadleaf weeds and woody brush in:

- Non-crop areas including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including grazed areas within these sites
- Pine plantations

Use Precautions and Restrictions

- Do not contaminate irrigation ditches or water used for domestic purposes.
- **Maximum Application Rate:** Do not apply more than 2 2/3 pints per acre of Vista per year.
- **Grazing restrictions**: There are no grazing restrictions for livestock, including lactating or non-lactating dairy animals.
- **Harvest restrictions:** Do not harvest grass for hay or silage from treated areas within 7 days of application.
- **Slaughter restrictions:** Meat animals must be withdrawn from treated forage at least 2 days before slaughter.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **In Arizona:** The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production; such as on designated grazing areas.
- **Management of Kochia Biotypes:** Research has suggested that many biotypes of kochia can occur within a single population. While kochia biotypes can vary in their susceptibility to Vista, all will be suppressed or controlled at 1 1/3 pint per acre provided application timing and growing conditions are optimal. Application of Vista at rates of less than 2/3 pint per acre can result in a shift to more tolerant biotypes within a population.
- Avoid applications where proximity of susceptible plants or other desirable plants is likely to result in exposure to spray or spray drift.

Avoiding Drift and Run-off to Surface Water or Adjacent Land

This product should be used strictly in accordance with the run-off and drift precautions on this label in order to minimize off-site exposure and potential effects on aquatic organisms and non-target plants.

Avoiding Runoff: Under certain conditions, this product may have a potential to run-off to surface water or adjacent land. Use of vegetation filter strips or treatment setbacks is recommended along rivers, creeks, streams, wetlands, etc or on the downhill side of treated areas where run-off could occur to minimize water runoff.

Avoiding Injury to Non-Target Plants

Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift but the first choice should be a coarser spray category nozzle set-up. If used, follow applicable use directions and precautions on the manufacturer's label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other non-target broadleaf plants. Do not apply or otherwise permit this product or sprays containing this product to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit trees, ornamentals, shade trees or other susceptible broadleaf plants. Do not permit spray mist or drift containing this product to contact susceptible plants because even very small quantities of the spray, that may not be visible, can cause severe injury during either active or dormant periods. Do not use in or around greenhouses.

Ground Application: To minimize spray drift, apply Vista in a total spray volume of 5 or more gallons per acre using spray equipment designed to produce coarse or larger droplets per ASAE S-572 standard. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

Aerial Application
Non-Cropland Areas, Including Rights-of-Way (Helicopter Only):
In non-cropland, **do not** apply this product with fixed-wing aircraft.

Pine Plantations: Both fixed wing and helicopter equipment may be used to apply this product on pine plantations, but fixed wing aircraft require additional drift mitigation measures.

To minimize spray drift, apply Vista in a total spray volume of 3 or more gallons per acre using spray. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray as per USDA-ARS/PAASS or nozzle manufacturer's guidelines or by using straight-stream nozzles directed straight back. Do not operate using a spray boom longer than 75% of wing span or 85% of rotor width. For fixed wing aircraft, maximum speed during application is limited to 140 mph and application height above the vegetation canopy should not exceed 10 ft.

Do not store or handle other agricultural chemicals with the same containers used for this product. Do not apply other agricultural chemicals or pesticides with equipment used to apply this product unless equipment has been thoroughly cleaned (see Sprayer Cleanup under Mixing Instructions).

Spray Drift Management (Aerial Application)

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 75% the length of the wingspan or 85% of rotor width.
2. Nozzles must always point backward parallel with the air stream and must be coarse or coarser per ASAE S-572 standard; see USDA-ARS/PAASS or nozzle manufacturer's guidelines.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Advisory Information section.

Aerial Spray Drift Advisory Information

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size:

- **Volume-**Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure-**Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles-**Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation-**Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type-**Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length-**For some use patterns, reducing the effective boom length to less than 65% of the wingspan or rotor length may further reduce drift without significantly reducing swath width.
- **Application-**Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Mixing Instructions

Vista Alone

Fill spray tank with water equal to 1/2 to 3/4 of the required spray volume. Add the required amount of Vista, then finish filling the tank. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Tank Mixing

This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For other products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.
- Undiluted Vista and 2,4-D amine concentrates are not compatible and cannot be mixed together in the same supply tank when using injection equipment. Combinations of Vista and 2,4-D ester are compatible for this purpose.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of Vista and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Tank Mixing Instructions
Fill spray tank with water to 1/4 to 1/3 of the required spray volume. Start agitation. Add different formulation types in the order indicated, allowing time for complete mixing and dispersion after addition of each.

1. Add dry flowables; wettable powders; aqueous suspensions, flowables or liquids.
2. Maintain agitation and fill spray tank to 3/4 of total spray volume and then add Vista and other emulsifiable concentrates and any solutions.

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

Sprayer Cleanup
To avoid injury to or exposure of nontarget crops, thoroughly clean and drain spray equipment used to apply this product after use. Cleaning should occur as soon as possible after application. Spray equipment should be cleaned by the following procedure:

1. Drain any remaining spray mixture from the spray tank and dispose of according to label disposal instructions.
2. Hose down the interior surfaces of the tank. Flush tank, hoses, boom, and nozzles with clean water for 10 minutes. Fill the tank with water and recirculate for 15 minutes. Spray part of the mixture through the hoses, boom, and nozzles and drain the tank. All rinse water must be disposed of in compliance with local, state, and federal guidelines.
3. Remove the nozzles and screens and clean separately.
4. If the spray equipment will be used on crops other than those labeled for this product, repeat steps 1 and 2 and thoroughly wash the outside of spray tank and the boom.

Application Instructions

Application Timing
Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at and following time of application may reduce weed control and increase the risk of non-target plant injury. **Only weeds that are emerged at the time of application will be affected.** Foliage that is wet at the time of application may decrease control. Applications of Vista are rain-fast within 1 hour after application.

Effect of Temperature on Herbicidal Activity
Herbicidal activity of Vista is influenced by weather conditions. Optimum activity requires active plant growth. The temperature range for optimum herbicidal activity is 55°F to 85°F. Reduced activity will occur when temperature is below 45°F. Frost before application (3 days) or shortly after (3 days) may reduce weed control.

Application Rate Ranges
Generally, application rates at the lower end of the recommended rate range will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought r extreme temperatures, dense weed stands and/or larger weeds) the higher rates within the rate range will be needed. Weeds growing in the absence of competition from other vegetation generally require higher rates to obtain satisfactory control or suppression.

Spray Coverage
Apply in a spray volume of 3 or more gallons per acre by air or 5 or more gallons per acre by air or ground equipment. Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Inadequate spray volume and coverage may result in decreased weed control. As canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use larger nozzle tips or decrease spraying speed to increase spray volume rather than increasing boom pressure. Refer to manufacturer's recommendations for information on relationships between spray volume, and nozzle size and arrangement.

Spot Treatments
Spot treatments may be applied with a calibrated boom or with hand sprayers according to directions provided below.

Hand-Held Sprayers: Hand-held or backpack sprayers may be used for spot applications of Vista if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based an area of 1,000 sq ft. The amount of Vista (fl oz or ml) in the table should be mixed with 1 gallon or more of water and applied to an area of 1,000 sq ft. To calculate the amount of product required for larger areas, multiply the table value (fl oz or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (Calculation: 3,500 ÷ 1,000 = 3.5). An area of 1000 sq ft is approximately 10.5 X 10.5 yards in size.

Amount of Vista to Equal Specified Broadcast Rate (Mix with 1 Gallon or More of Water and Apply to 1,000 sq ft)				
2/3 pt/ acre	1 pt/acre	1 1/3 pt/ acre	2 pt/acre	2 2/3 pt/ acre
0.25 fl oz (7.25 ml)	0.37 fl oz (11 ml)	0.5 fl oz (14.5 ml)	0.74 fl oz (22 ml)	1.0 fl oz (30 ml)

†1 fl oz = 29.6 (30) ml

Weeds Controlled or Suppressed

(Numbers in parentheses (-) refer to footnotes):

Weeds Controlled			Weeds Suppressed (3)
2/3 - 1 1/3 pt/ acre	1 1/3 pt/acre	2 2/3 pt/acre	2 2/3 pt/acre
bedstraw (cleavers) common purslane hairy buttercup hemp dogbane kochia (1), (2), (4) marshelder (2) sericea lespedeza (2) tropic croton	chickweed cocklebur coffeeweed, common ragweed curly dock cutleaf primrose dandelion dogfennel grape horseweed/ marestail morningglory prickly lettuce sunflower vetch velvetleaf venice mallow western ragweed white clover white cockle	blackberry catsear giant ragweed goldenrod henbane hop clover horsenettle ironweed lantana musk thistle wild carrot	buckhorn plantain common mullein cudweed field bindweed field horsetail field pennycress leafy spurge mustard narrowleaf plantain nightshade species spiny amaranth wild buckwheat yellow thistle

(1) Includes herbicide tolerant or resistant biotypes.
(2) Use the higher rate in the range to control these weeds.
(3) Suppression is expressed as a reduction in weed competition (reduction population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.
(4) The addition of a methylated seed oil surfactant (i.e. MSO or ESO) at the rate of 1-2 quarts per acre is recommended for control of kochia. For kochia infestations with larger plants at more advanced growth stages, increasing the rate of Vista herbicide to 1.5 to 2.0 pints or the addition of 1-2 quarts per acre of 2,4-D along with the 1-2 quarts per acre of methylated seed oil will improve control.

Specific Use Directions

Non-Cropland and Pine Plantations

(Including industrial sites, non-irrigation ditch banks, and rights-of-way such as electrical power lines, communication lines, pipelines, roadsides and railroads including graze areas within these sites)

Precautions for Use in Pine Plantations:
Do not apply Vista to pine plantations as an over-the-top broadcast treatment during active terminal growth (from initiation of budbreak/growth flush until seasonal terminal growth has hardened off and over-wintering buds have formed). Directed spray applications may be made to pine plantations during periods of active growth, but care should be taken to avoid spray contact with actively growing foliage.

Do not apply Vista in tank mix combination to pine plantations unless the tank mix product is labeled for weed or brush control in pines by the application method being employed.

Apply at the broadcast rate of 2/3 to 2 2/3 pints per acre when weeds are small and/or actively growing. Split applications of Vista herbicide may be made during a single year, provided the total amount of Vista applied does not exceed the maximum-labeled rate of 2 2/3 pints per acre. See listing of Weeds Controlled or Suppressed at end of General Information Section.

Spot treatments should be applied at rates and spray volumes equivalent to broadcast application. See instructions for "Spot Application" above.

Brush Control: Vista may be tank-mixed with Garlon® 4 herbicide, Garlon 3A herbicide, Accord® SP herbicide, Accord XRT herbicide, Tordon® K herbicide or Tordon 101M herbicide at indicated rates to increase control of pine species, shingle oak, red maple, red oak and other woody species.

Products in Tank Mix	Application Rates	Woody Plants Controlled
Vista + Garlon 4	32 - 42 fl oz + 2 - 3 qt/acre	bay species black cherry dogwood water oak willow oak
Vista plus + Garlon 3A	32 - 42 fl oz + 3 - 4 qt/acre	bay species black cherry dogwood water oak willow oak
Vista plus + Garlon 3A + Tordon 101M	32 - 42 fl oz + 2 - 4 qt/acre + 4 - 8 qt/acre	pine species red maple red oak shingle oak Virginia pine water oak
Vista plus + Garlon 3A + Tordon K	32 - 42 fl oz + 4 qt/acre + 2 qt/acre	pine species red maple red oak shingle oak Virginia pine water oak
Vista plus + Accord SP or Accord XRT herbicide	32 - 42 fl oz + 4 - 6 qt/acre	dogwood gallberry pines wax myrtle

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-114-008
Replaces Label: D02-114-007
LOES Number: 010-00097

EPA accepted 06/10/05

Revisions:

1. Updated Storage and Disposal
2. Removed the following pests: Carolina geranium, common mallow, knotweed, puncturevine, spotted knapweed, stinging nettle

APPENDIX A.5 - REFERENCE HERBICIDE LABELS – RIMSULFURON

DuPont™ Matrix® FNV

herbicide

DuPont™ Matrix® FNV

herbicide

DRY FLOWABLE

For Weed Control in Citrus Fruit, Stone Fruit, Tree Nuts, Pome Fruit, Grapes, Potatoes, Potatoes grown for seed, and field grown Tomatoes

Active Ingredients	*By Weight*
Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide	25.0%
Other Ingredients	75.0%
TOTAL	100.0%

EPA REG. NO. 352-671
Nonrefillable Container
Net: _____
OR
Refillable Container
Net: _____

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

Long-sleeve shirt and long pants.
Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
Shoes plus socks.

Discard clothing and other absorbent material that have been drenched or heavily contaminated with this product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170 Section 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate.

PRODUCT INFORMATION

DuPont™ MATRIX® FNV herbicide must be used only in accordance with directions on this label or in separate published DuPont directions. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically directed by DuPont.

MATRIX® FNV herbicide is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in pome fruit, citrus fruit, tree nut, stone fruit, and grape crops which have been established for at least one full growing season. MATRIX® FNV herbicide also selectively controls certain broadleaf weeds and grasses in potatoes, potatoes grown for seed, and field grown tomatoes (direct seeded and transplant).

MATRIX® FNV is directed for use in most states. Check with your state extension service or Department of Agriculture before use, to be certain MATRIX® FNV is registered in your state.

The best control is obtained when MATRIX® FNV is applied to young, actively growing weeds. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

MATRIX® FNV is noncorrosive to equipment, nonflammable, and nonvolatile.

MATRIX® FNV is formulated as a dry flowable product. Continuous agitation is required to maintain the product in suspension in the spray tank.

TANK MIXTURES

To broaden the weed control spectrum and /or extend the residual effectiveness of MATRIX® FNV herbicide, MATRIX® FNV may be tank mixed with other registered herbicides affecting a different site of action (mode of action) and /or adjuvants registered for use on the crops listed on MATRIX® FNV labeling.

Refer to the label(s) of the tank mix partner(s) for any additional use instructions or restrictions.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of this label.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency in your State responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.
Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
Shoes plus socks.

CITRUS FRUIT, STONE FRUIT, TREE NUTS, POME FRUIT, GRAPES

APPLICATION INFORMATION

MATRIX® FNV should be applied as a uniform broadcast application to the orchard or vineyard floor or as a uniform band application directed at the base of the trunk or vine.

For broadcast applications, make a single application of MATRIX® FNV at 4 ounces per acre per year. For improved weed management, MATRIX® FNV should be applied in tank mixture with other registered preemergence herbicides.

When applied as a banded treatment (50% band or less), MATRIX® FNV may be applied twice per year. However, do not apply more than 4 ounces per acre on a broadcast application basis per year. Unless otherwise specified on this label, or in separate published DuPont instructions, allow a minimum of 30 days between applications.

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacture's spray volume and pressure instructions for preemergence or postemergence herbicide applications.

Do not apply MATRIX® FNV by air. Use ground application equipment only.

Apply only to crops that have been established for one full growing season and are in good health and vigor.

Best results are obtained when the soil is moist at the time of application, and 1/2 inch of rainfall or sprinkler irrigation occurs within 2 weeks after application. Time the application(s) to take advantage of normal rainfall patterns and cool temperatures. Moisture for activation should occur within 2-3 weeks after application.

DuPont™ MATRIX® FNV may also be applied by certain chemigation methods, such as micro-sprinkler. However, do not apply by overhead, flood, or drip irrigation.

Avoid direct or indirect spray contact with crop foliage or fruit, except undesirable suckers.

Do not use MATRIX® FNV in a spray solution with a pH of below 4.0 or above 8.0, or with spray additives that buffer the pH to below 4.0 or above 8.0, since degradation of MATRIX® FNV may occur.

CROP GROUP / CROP	PRE-HARVEST INTERVAL (PHI)
Citrus Fruit: Calamondin; Citrus citron; Citrus hybrids (includes chironja, tangelo, tangor); Grapefruit; Kumquat; Lemon; Lime; Mandarin (tangerine); Orange (sweet and sour); Pummelo; Satsuma mandarin	3 days
Pome Fruit: Apple; Crabapple; Loquat; Mayhaw; Pear; Oriental pear; Quince	7 days
Tree Nuts: Almond; Beech nut; Brazil nut; Butternut; Cashew; Chestnut; Chinquapin; Filbert (hazelnut); Hickory nut; Macadamia nut (bush nut); Pecan; Pistachio; Walnut (black and English)	14 days
Stone Fruit: Apricot; Cherry (sweet and tart); Nectarine; Peach; Plum; Plum (Chickasaw); Plum (Damson); Plum (Japanese); Plumcot; Prune (fresh)	14 days
Grapes	14 days

WEEDS CONTROLLED

Susceptible weeds are controlled for 60 to 90 days after application of MATRIX® FNV. Rainfall or irrigation is needed for herbicide activation. Length of control is a function of moisture for activation, soil temperature, soil texture and amount of moisture after application.

When weeds are present at application, include a labeled burn down herbicide, such as glyphosate, paraquat, or glufosinate, with an appropriate adjuvant. MATRIX® FNV will help provide postemergence control of the weeds listed in this label. For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant.

Residual weed control may be reduced when MATRIX® FNV is applied where where heavy crop trash and/or weed residue exists.

Weed control may also be reduced when applications of MATRIX® FNV are made to weeds under stress from drought, excessive water, temperature extremes, disease or low humidity.

PREEMERGENCE WEED CONTROL

Grasses

Barnyardgrass	*Echinochloa crus-galli*
Crabgrass, large	*Digitaria sanguinalis*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Quackgrass	*Agropyron repens*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves

Chamomile, False	*Matricaria maritima*
Dandelion, common (seedling)	*Taraxacum officinale*
Filaree, Redstem	*Erodium cicutarium*
Fleabane, hairy	*Conyza bonariensis*
Groundsel, common	*Senecio vulgaris*
Henbit	*Lamium amplexicaule*
Kochia	*Kochia scoparia*
Mallow, common	*Malva neglecta*
Marestail/horseweed	*Conyza canadensis*
Mustard, Birdsrape	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Puncturevine	*Tribulus terrestris*
Purslane, Common	*Portulaca oleracea*
Spurge, prostrate	*Euphorbia prostrata*
Spurge, spotted	*Euphorbia maculata*

PREEMERGENCE PARTIAL WEED CONTROL

Grasses

Wild Oat	*Avena fatua*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (established)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Nightshade, Black	*Solanum nigrum*
Nightshade, Hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, Prostrate	*Amaranthus blitoides*
Ragweed, Common	*Ambrosia artemisiifolia*
Velvetleaf	*Abutilon theophrasti*

POSTEMERGENCE WEED CONTROL

Grasses (1-2 inches)

Barley, Volunteer	*Hordeum vulgare*
Barnyardgrass	*Echinochloa crus-galli*
Bluegrass, Annual	*Poa annua*
Crabgrass, large (1/2 inch)	*Digitaria sanguinalis*
Foxtail, Bristly	*Setaria verticillata*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Panicum, Fall	*Panicum dichotomislorum*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves (1-3 inches)

Chamomile, False	*Matricaria maritima*
Chickweed, common	*Stellaria media*
Henbit	*Lamium amplexicaule*
Kochia	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Mustard, Wild	*Sinapis arvensis*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Purslane, common	*Portulaca oleracea*
Shepherd's-purse	*Capsella bursa-pastoris*
Wild Radish	*Raphanus raphanistrum*

POSTEMERGENCE PARTIAL WEED CONTROL

Grasses

Johnsongrass, seedling	*Sorghum halepense*
Millet, wild-proso	*Panicum miliaceum*
Oat, wild	*Avena fatua*
Quackgrass	*Agropyron repens*
Stinkgrass	*Eragrostis cilianensis*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (>6 inches in diameter)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Mallow, common	*Malva neglecta*
Nightshade, hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, prostrate	*Amaranthus blitoides*
Ragweed, common	*Ambrosia artemisiifolia*
Smartweed, Pennsylvania	*Polygonum pensylvanicum*
Thistle, Canada	*Cirsium arvense*
Velvetleaf	*Abutilon theophrasti*

SPECIFIC WEED PROBLEMS

COMMON DANDELION AND MALLOW: DuPont™ MATRIX® FNV provides excellent preemergence control of common dandelion and mallow germinating from seed. In high rainfall areas or where sprinkler irrigation is used, a second application may be needed to extend residual control throughout the growing season.When applications are made postemergence to these weeds, always add a suitable burndown herbicide such as glyphosate or paraquat. Small and medium sized plants (up to 6 inches in diameter) are controlled by postemergence applications of MATRIX® FNV plus a burndown herbicide; however, plants that are larger than 6 inches in diameter may only be suppressed and may require a second application 4 to 6 weeks later.

MARESTAIL AND FLEABANE: Where marestail and fleabane are the target weeds, applications prior to emergence provide best results. This may require a fall application to help prevent fall germinated seedlings from becoming established during the winter. A foliar active herbicide with activity on fleabane and marestail (such as paraquat, glyphosate, and glufosinate) must be tank mixed with MATRIX® FNV for best control and resistance management. After Fall application, a second application in the spring may be required to provide extended weed control into the summer. Where MATRIX® FNV is applied for control of Marestail and Fleabane, it is also directed that another soil residual herbicide be included as a tank mix or rotational partner to aid in resistance management.

PUNCTUREVINE: For best results, apply early in the spring when you can expect rainfall or overhead irrigation to move MATRIX® FNV into the weed root zone before puncturevine germinates. Puncturevine emerges over a long period of time and late season germinations may not be controlled.

YELLOW NUTSEDGE: MATRIX® FNV provides suppression of yellow nutsedge. To obtain the most effective results, use the highest rate allowed based on the width of your spray band and make two applications. For applications made postemergence to nutsedge, always add the appropriate rate of glyphosate and an effective adjuvant. On soils with high organic matter (6% or higher) always apply postemergence to weeds since preemergence applications are not as effective on these soils.

Application Timing - Yellow Nutsedge

Preemergence plus Early Postemergence: Make the preemergence application when you can expect rainfall or overhead irrigation to move MATRIX® FNV into the nutsedge root zone prior to nutsedge emergence. Make a second application when emerging nutsedge is 2 to 4 inches tall. **Postemergence plus Postemergence**: Make first application when emerging nutsedge is 2 to 4 inches tall. Repeat application 14 days later. **Note**: If yellow nutsedge is greater than 6 inches tall at the first application, weed control effectiveness will be greatly reduced.

ANNUAL SUMMER GRASSES (such as Barnyardgrass, Green foxtail, and Crabgrass): Where sprinkler irrigation is used, a fall or early spring application of MATRIX® FNV will not provide season-long control of summer grasses like foxtail, barnyardgrass and crabgrass. For best results, use MATRIX® FNV with a suitable tank-mix herbicide such as oryzalin or pendimethalin. A second application may be needed to provide extended control of summer grasses.

USE PRECAUTIONS

- Direct sprays to minimize spray contact with fruit or foliage.

Diuron Containing Products (Washington and Oregon): On coarse textured soils where crops are grown under sprinkler irrigation, avoid using diuron containing products (such as, Karmex XP or Direx 4L) as a tank-mix partner with MATRIX® FNV between June 1 and September 30 since crop injury may result. MATRIX® FNV tank-mixed with diuron products can be used in the fall (after September 30), or early spring when temperatures are cool to moderate.

CROP ROTATION - Fruit, Nut, and Vine Crops

Do not plant any crops, except field corn, tomatoes, potatoes, and those listed on this label in the "APPLICATION INFORMATION Section", within one year of the last MATRIX® FNV application. Prior to planting, fields to be rotated to the above crops should have a thorough soil mixing - for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay should be completed prior to planting any other desired crops. The results of this bioassay may require the crop rotation interval to be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip should cross the entire field including knolls and low areas.

MICRO-SPRINKLER CHEMIGATION - Fruit, Nut, and Vine Crops

MATRIX® FNV may be applied via micro-sprinkler chemigation. The chemigation system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional (normally closed) solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include

a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide(s) and capable of being fitted with a system interlock. Do not apply DuPont™ MATRIX® FNV through any other chemigation equipment.

USE PRECAUTIONS FOR CHEMIGATION - Fruit, Nut, and Vine Crops

- Do not connect an irrigation system used for MATRIX® FNV Herbicide application to a public water system.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the specified rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.
- Continuous agitation in the mix tank is needed to keep the product from settling. If settling does occur, thoroughly re-agitate the tank mixture before using.

POTATOES

APPLICATION INFORMATION

PRE-EMERGENCE APPLICATIONS

For best results, apply MATRIX® FNV at 1 to 1-1/2 oz product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® FNV in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® FNV 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® FNV postemergence would result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, add a spray adjuvant to the spray mix (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of MATRIX® FNV. Do note apply MATRIX® FNV within 60 days of potato harvest. Do not exceed 2.5 oz of MATRIX® FNV per acre per year.

TANK MIXTURES - PREEMERGENCE APPLICATIONS

MATRIX® FNV may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E", "Prowl", "Lorox" DF, DuPont™ CINCH® or "Dual II Magnum", "Roundup" or glyphosate-containing products registered for potatoes) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® FNV with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® FNV and the tank mix partner(s).

MATRIX® FNV may also be used in three-way tank mix combinations with the above pesticide(s). If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV.

MATRIX® FNV plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® FNV at 1 to 1-1/2 oz per acre and Metribuzin at 1/3 to 1 1/3 lb per acre for better control of such weeds as kochia, Russian thistle and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the Metribuzin label for your area.

MATRIX® FNV plus "Eptam 7E"

Apply a tank mix of MATRIX® FNV at 1 to 1-1/2 oz per acre and "Eptam 7E" at label rates for better control of weeds such as hairy nightshade and crabgrass. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Since the rates and incorporation methods of "Eptam 7E" vary by region, follow the directions for your region. It is specified to incorporate a tank mix of "Eptam 7E" + MATRIX® FNV using irrigation, and not equipment, to prevent poor weed control from deep incorporation of the MATRIX® FNV.

If your area does not allow incorporation using irrigation, then apply "Eptam 7E" and MATRIX® FNV in a split application. Read and follow both product labels for your area.

MATRIX® FNV plus Pendimethalin (Such as "Prowl")

Apply a tank mix combination of MATRIX® FNV at 1 to 1-1/2 oz per acre and "Prowl" at label rates for better control of such weeds as kochia, crabgrass, and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Prowl" label for your area.

MATRIX® FNV plus Linuron (Such as "Lorox" DF)

Apply a tank mix combination of MATRIX® FNV at 1 to 1-1/2 oz per acre and "Lorox" DF at 1 to 4 lb per acre for better control of such weeds as common lambsquarter and common ragweed. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Lorox" DF label for your area.

MATRIX® FNV Plus S-Metalochlor (Such as DuPont™ CINCH® or "Dual II Magnum")

Apply a tank mix combination of MATRIX® FNV at 1 to 1-1/2 oz per acre and CINCH® or "Dual II Magnum" at 1 to 2 pt per acre for better control of such weeds as yellow

nutsedge and black nightshade. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow both product labels for your area.

POSTEMERGENCE APPLICATIONS - POTATOES

For postemergence applications, apply DuPont™ MATRIX® FNV at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the "Specific Weed Problem" section of this label for more information).

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application of MATRIX® FNV. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® FNV postemergence, rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® FNV in the soil and help provide control of subsequent flushes of annual weeds.

TANK MIXTURES (POTATOES)- POSTEMERGENCE APPLICATIONS

MATRIX® FNV may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E" and metribuzin) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® FNV with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® FNV and the tank mix partner(s).

MATRIX® FNV may also be used in three-way tank mix combinations with the above pesticide(s). If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV.

MATRIX® FNV Plus Foliar Fungicides

MATRIX® FNV may be tank mixed with other suitable registered fungicides on potatoes (such as DuPont™ CURZATE® 60DF, "Manzate", and "Bravo").

Read and follow all manufacturer's label directions for the companion fungicide. If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV.

MATRIX® FNV Plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® FNV at 1 to 1-1/2 oz per acre and Metribuzin (such as "Sencor") at 1/4 to 2/3 lb per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds. Use a nonionic surfactant (NIS) at 0.125 % v/v (1 pt/100 gal of water). The addition of adjuvants to post emergence metribuzin applications may reduce crop tolerance. Adjuvants should be used with caution.

When possible, avoid post emergence applications on metribuzin sensitive varieties or if the crop is under stress. Read and follow both product labels for your area.

Note: The use of crop oil concentrate (COC) or methylated seed oil (MSO) is not specified for tank mix combinations with MATRIX® FNV plus Metribuzin.

MATRIX® FNV Plus "Eptam 7E"

Apply MATRIX® FNV herbicide at 1 to 1.5 ounce per acre in tankmix with 1 pint per acre of "Eptam 7E" herbicide. Include 1% volume/volume (1 gal per 100 gal spray solution) of either of a modified seed oil adjuvant (MSO) or 0.5% volume/volume (0.5 gal per 100 gal spray solution) of a organo-silicon/modified seed oil blend (OS/MSO – such as "Dyne-Amic", "Rivet", or "Phase"). Include 2 lb/acre of a spray-grade ammonium sulfate (AMS).

For best results, rainfall or sprinkler irrigation of 1/3 to 1 " (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application.

Additional "Eptam 7E" can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the "Eptam 7E" label before use. If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV.)

Precautions:

- Crop Injury can occur (leaf burn and temporary yellowing) when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.

In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

SEQUENTIAL APPLICATIONS - POTATOES

Depending upon rainfall or other environmental conditions, and the density of the top growth of the potato variety (those with poor top growth such as Norkotah), annual weeds may have a second flush of germinating seedlings, and treated perennials may produce new growth from underground roots or stems. To maximize control of such weeds, it may be necessary to apply MATRIX® FNV a second time, 14 to 28 days after the first application (typically, make applications to small weeds that are less than 1" in height or diameter that are actively growing). The combined rate of the applications cannot exceed 2.5 oz MATRIX® FNV per acre.

POTATOES GROWN FOR SEED

MATRIX® FNV may be used on potatoes grown for seed that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting*.

Apply MATRIX® FNV by any of the following methods:

- Preemergence 1.5 oz per acre
- Postemergence at 1.0 to 1.5 oz per acre
- In a sequential application Preemergence at 1.0-1.5 oz per acre, followed by Postemergence at 1.0 oz per acre
- Postemergence at 1.0 oz per acre followed by Postemergence at 1.0 oz per acre.

Do not exceed 2.5 oz per acre of MATRIX® FNV in the same year.

To activate MATRIX® FNV preemergence, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3

to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to moveDuPont™ MATRIX® FNV 2" to 3" deep into the soil profile.

Restrictions

- Do not apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- Do not use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the generally shorter growing seasons and different cultural practices in seed production in the states of California, Idaho, Oregon, Montana, South Dakota, Washington, Colorado, and parts of North Dakota**.

Precautions

- The rotational crop interval listed in the MATRIX® FNV label may need to be extended to 18 months if seed potato production practices decrease water and/or time for MATRIX® FNV breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at anytime.
- Consider informing your state seed certification agency or inspector that MATRIX® FNV has been applied. Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.

* First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced microtubers, minitubers, stem cuttings, or line selections.

** All counties in North Dakota except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

WEEDS CONTROLLED - POTATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Pigweed, Prostrate	(Amaranthus blitoides)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade†, Black	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

† Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed

POSTEMERGENCE CONTROL

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Quackgrass†	(Agropyron repens)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

** Except in California

‡ Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

AERIAL APPLICATION

(See Also SPRAY DRIFT)

- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. In California use a minimum of 10 GPA.
- Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.
- Do not apply by air in the state of California, except in Modoc or Siskiyou counties. Do not apply by air in the state of New York.

CHEMIGATION - POTATOES ONLY

DuPont™ MATRIX® FNV can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply MATRIX® FNV using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply MATRIX® FNV uniformly may result in crop injury and/or poor weed control.

For best results, use the highest specified rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a nonionic surfactant containing at least 80% active ingredient to the spray mix at 1 to 2 pt/acre.

MATRIX® FNV may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application.

For solid set and hand move irrigation systems, apply MATRIX® FNV at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

For center pivot and lateral move irrigation systems, apply MATRIX® FNV in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact State Extension Service specialists, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, should make the necessary adjustments.

IRRIGATION SYSTEM REQUIREMENTS

The irrigation system must contain the following:

- a functional check valve
- vacuum relief valve
- a low pressure drain (to prevent water source contamination from backflow; should be located on the irrigation pipeline)
- functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)
- a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- a functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- a functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (should be connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

CHEMIGATION PRECAUTIONS

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the specified rate, use sufficient water, and apply the mixture for the proper length of time.

- Do not permit run-off during chemigation.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not connect an irrigation system (including greenhouse systems) used for MATRIX® FNV application to a public water system.

MATRIX® FNV ROTATIONAL CROP GUIDELINES - POTATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® FNV. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline

Rotation Crop	Interval (months)
Alfalfa**	4
Barley, Spring *	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA)**	4
Carrots**	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed**	4
Mint**	4
Oats, Spring	9
Onions**	10
Peas**	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9
Wheat, Winter	4
Crops Not Listed	18

* Idaho - 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20.

Colorado - Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 oz or less DuPont™ MATRIX® FNV per acre per season--9 months; greater than 1.5 oz of MATRIX® FNV per acre per season--18 months

**Potatoes grown under sprinkler irrigation with a minimum of 18 inches of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 inches of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 inches of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

For Rotation to Alfalfa: MATRIX® FNV in potatoes not to exceed 1 ounce per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® FNV in potatoes not to exceed 1.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Onions and Carrots: MATRIX® FNV in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® FNV in potatoes not to exceed 2.5 ounces per acre per season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Grass Crops Grown for Seed, Hay or Pasture: MATRIX® FNV in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® FNV in potatoes not to exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Peas and Mints: MATRIX® FNV in potatoes not to exceed 1.5 ounces per acre per use season in all areas.

NOTE: MATRIX® FNV should not be used in a tankmix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.

RESTRICTIONS

Potatoes

- Do not apply MATRIX® FNV on potatoes within 60 days of harvest.
- Do not exceed 2.5 oz MATRIX® FNV per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use MATRIX® FNV on potatoes grown for seed, except as directed on this labeling or supplemental labeling.
- Do not apply to potatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to potatoes growing in fields.

TOMATOES (DIRECT SEEDED AND TRANSPLANT)

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® FNV after seeding at 2.0-4.0 oz. product per acre.

To activate MATRIX® FNV in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® FNV 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® FNV postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® FNV.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® FNV at 1.0-2.0 oz product per acre (use 2.0 oz per acre for longer residual) to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color)may occur after application of MATRIX® FNV. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® FNV postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® FNV in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® FNV should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS TOMATOES

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX® FNV.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® FNV may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® FNV cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of DuPont™ MATRIX® FNV may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® FNV cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS - TOMATOES

MATRIX® FNV can be applied preemergence and postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See the "Preemergence Applications" and "Postemergence Applications" sections of this label for additional details on the use of MATRIX® FNV.

TANK MIXTURES - TOMATOES

MATRIX® FNV may be tank mixed with pesticide products labeled for use on tomatoes in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® FNV with another tomato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® FNV and the tank mix partner(s).

MATRIX® FNV may also be used in three-way tank mix combinations with the above pesticide(s). If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI700 surfactant).

MATRIX® FNV Plus Foliar Fungicides

MATRIX® FNV may be tank mixed with other suitable registered fungicides on tomatoes (such as "Manzate", and "Bravo"). Tank mixes with Copper containing fungicides may reduce weed control.

Read and follow all manufacturers' label directions for the companion fungicide. If these directions conflict with this MATRIX® FNV label, do not use as a tank mix with MATRIX® FNV.

TOMATOES: CALIFORNIA

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® FNV after seeding at 2.0-4.0 oz. product per acre. To activate MATRIX® FNV in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® FNV 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® FNV postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® FNV.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® FNV at 2.0 oz. product per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color) may occur after application of MATRIX® FNV. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® FNV postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® FNV in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® FNV should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX® FNV.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® FNV may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® FNV cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of MATRIX® FNV may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® FNV cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS – TOMATOES:

DuPont™ MATRIX® FNV can be applied in a preemergence band at 2.0 - 4.0 oz. product per acre (For example, 0.5-1.0 oz. of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

MATRIX® FNV can be applied using three postemergence band applications at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding).

Do not make any more than three band applications of MATRIX® FNV in one growing season.

WEEDS CONTROLLED - TOMATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Black	(Brassica nigra)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade*, Black†	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade suppression is only for use in Tomatoes in California.

† See Specific Weed Problems

POSTEMERGENCE CONTROL (Weeds not to exceed 1" in height)

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp.)
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Quackgrass†	(Agropyron repens)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black (cotyledon stage only)	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade partial control is only for use in Tomatoes in California.

**Except California

‡ Partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

MATRIX® FNV ROTATIONAL CROP GUIDELINES - TOMATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® FNV. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation Crop	Interval (months)
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

Note: Where drip irrigated tomatoes are grown, rotate only to tomato, potato or field corn as crop injury may result.

Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

RESTRICTIONS

Tomatoes

- Do not apply DuPont™ MATRIX® FNV within 45 days of tomato harvest.
- Do not apply MATRIX® FNV by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4.0 oz. MATRIX® FNV per acre (broadcast basis) on tomatoes during the same growing season.
- Banding applications of MATRIX® FNV should not exceed 4.0 ounces on a broadcast basis in the same growing season.
- Do not apply to tomatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to tomatoes growing in fields.
- Do not apply through any type of irrigation system.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of MATRIX® FNV.

- Cultivation up to 7 days before the postemergence application of MATRIX® FNV may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by MATRIX® FNV.
- To allow MATRIX® FNV to fully control treated weeds, cultivation is not directed for 7 days after application.
- Optimum timing for cultivation is 7 - 14 days after a postemergence application of MATRIX® FNV.

SPECIFIC WEED PROBLEMS

Quackgrass: For best results, apply MATRIX® FNV postemergence to quackgrass that is 4 to 8" tall. Quackgrass not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

Black Nightshade (Tomatoes): For best results, apply MATRIX® FNV preemergence (prior to weed germination) at 2 - 4 oz per acre followed by a postemergence application at 1 to 2 oz per acre to small actively growing weeds.

Canada Thistle: For best results, apply MATRIX® FNV postemergence to small actively growing Canada thistle. Canada thistle not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

SPRAY ADJUVANTS

Include a spray adjuvant with applications of MATRIX® FNV when applied by itself and postemergence to the weeds. Consult your Ag dealer or applicator, local DuPont fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with MATRIX® FNV, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

Nonionic Surfactant (NIS)

- Apply 0.125 to 0.25% v/v (1 to 2 pt/100 gal of water). The 0.25% v/v rate is preferred under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12. – See the Tank Mixtures section of this label for additional information.

Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

- Apply at 1% volume/volume (1 gal per 100 gal spray solution).
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Blended products which contain both MSO and Silcone are acceptable at labeled rates.

Ammonium Nitrogen Fertilizer

- An ammonium nitrogen fertilizer may be added to the spray mix, in addition to a crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by DuPont product management. Consult separate DuPont technical bulletins for detailed information before using adjuvant types not specified on this label.

Precautions:

1. The use of silicone polymer type surfactants is not suggested as reduced weed control may result.
2. Avoid using crop oil concentrate (COC) or methylated seed oil (MSO) when potatoes are under heat stress (>85 degrees F) as multiple stresses may cause crop injury.

EQUIPMENT-SPRAY VOLUMES

Agitate the spray tank continuously to keep the material in suspension.

Do not use equipment and/or spray volumes that will cause damage from spray by drift onto nontarget sites. Do not make applications when weather conditions are likely to cause spray to drift onto nontarget sites. (See the "Spray Drift Management" section of this label for additional information).

GROUND APPLICATION - POTATOES AND TOMATOES

To ensure optimum spray distribution and thorough coverage, apply DuPont™ MATRIX® FNV with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, "Twinjet", underleaf banding nozzles or flood jet nozzles. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution.

With ground application equipment, use enough water to deliver 10 to 40 gal total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

SPRAYER CLEANUP

Spray equipment or nurse tanks used in chemigation, must be cleaned before MATRIX® FNV is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the 6 steps outlined in the "After Spraying MATRIX® FNV and before Spraying Other Crops" section of this label.

For maximum preemergence activity, prior to application, the bed or soil surface should be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of MATRIX® FNV . Cutting water furrows, or cultivations that mix untreated soil into the treated areas, will also reduce the effectiveness of the herbicide treatment.

For best weed management apply MATRIX® FNV with another suitable residual herbicide registered for that crop. This is specified for all soil types, but especially so for coarse textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of MATRIX® FNV may be needed to provide extended weed control.

ADDITIONAL USE INFORMATION - ALL CROPS AND USES

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of MATRIX® FNV herbicide.
3. Continue agitation until the MATRIX® FNV herbicide is fully dispersed, at least 5 minutes.
4. Once the MATRIX® FNV herbicide is fully dispersed, maintain agitation and continue filling tank with water. MATRIX® FNV herbicide should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the required of spray adjuvant (if needed). Always add the spray adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply MATRIX® FNV herbicide spray mixture within 48 hours of mixing to avoid product degradation.
8. If MATRIX® FNV and a tank mix partner are to be applied in multiple loads, pre-slurry the MATRIX® FNV in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the MATRIX® FNV.

Do not use MATRIX® FNV in a spray solution, or with spray additives that reduce the pH to below 4.0, or MATRIX® FNV degradation may occur.

If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide.

SPRAYER CLEANUP

It is important that spray equipment is clean and free of previous pesticide deposits before using MATRIX® FNV and then properly cleaned out following application. Clean all application equipment before applying MATRIX® FNV. Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of MATRIX® FNV, thoroughly clean all mixing and spray equipment to avoid subsequent crop injury.

Note :

- When cleaning spray equipment before applying MATRIX® FNV, read and follow label directions for proper rinsate disposal of the product previously sprayed.

When spraying or mixing equipment will be used over an extended period to apply multiple loads of MATRIX® FNV, partially fill the tank with fresh water at the end of each day of spraying, and flush the boom and hoses, before allowing to sit overnight.

At the End of the Day

When multiple loads of MATRIX® FNV herbicide are applied, it is specified that during periods at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses be flushed. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

After Spraying MATRIX® FNV and before Spraying Other Crops

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia* (contains at least 3% active ingredient) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing ammonia* and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) indicated on

this label. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an alternate-strength ammonia solution or a DuPont-approved spray equipment cleaner can be used in the cleanup procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or DuPont representative for a listing of approved spray equipment cleaners.

NOTES:

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning spray tanks is specified prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When DuPont™ MATRIX® FNV is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all preapplication cleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of MATRIX® FNV and applications of other pesticides to MATRIX® FNV-sensitive crops during the same spray season, it is specified that a sprayer be dedicated to MATRIX® FNV to further reduce the chance of crop injury.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR. Where states have more stringent regulations, they should be followed.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures specified for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

CONTROLLING DROPLET SIZE - AIRCRAFT

- Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length - the boom length should not exceed 3/4 of the wing or rotor length--longer booms increase drift potential.
- Application Height - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Set the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present,

inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

DuPont™ MATRIX® FNV is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For Preemergence weed control, rainfall or sprinkler irrigation is needed to move MATRIX® FNV into the soil. Weeds will generally not emerge from Preemergence applications. In some cases, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

MATRIX® FNV provides the best control of weeds in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not provide satisfactory control. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

The herbicidal action of MATRIX® FNV may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to MATRIX® FNV.

Postemergence Weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow MATRIX® FNV to be sufficiently absorbed by weed foliage (generally MATRIX® FNV is rainfast in 4 hours).

RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in the field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide directions available in your area.

Naturally occurring weed biotypes that are resistant to "Amber" herbicide, DuPont™ ALLY® herbicide, DuPont™ GLEAN® FC herbicide, DuPont™ EXPRESS® herbicide, DuPont™ HARMONY® EXTRA herbicide, or DuPont™ FINESSE® herbicide will also be resistant to MATRIX® FNV.

INTEGRATED PEST MANAGEMENT

DuPont specifies the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

PRECAUTIONS

- Potato and tomato varieties may differ in their response to various herbicides. DuPont specifies that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use to a small area.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes and tomatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- If sprinklers are used for frost protection, delay the application of MATRIX® FNV until stress from environmental conditions have passed.
- Avoid spray drift to any adjacent crops or desirable plants as injury may occur.
- Crop injury may occur following an application of MATRIX® FNV if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Draining or flushing equipment on or near desirable trees or other plants, or in areas where their roots may extend,

or in locations where the chemical may be washed or moved into contact with their roots may injure these plants. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.

- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- For best results, maintain spray tank solution at pH 5 to 7.
- Do not apply to frozen or snow covered soil. Crop injury may occur from applications made to poorly drained soils.
- If the selected companion herbicide has a ground or surface water advisory, consider the advisory when using the companion herbicide.
- Tank mixing DuPont™ MATRIX® FNV with Organophosphate insecticides in tomatoes may result in crop injury.

RESTRICTIONS

- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:
- Do not apply, drain, or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.
- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage crops other than potatoes or tomatoes.
- Do not apply using Air Assisted (Air Blast) field crop sprayers.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store product in original container only. Store in a cool, dry place.

Pesticide Disposal: Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with DuPont™ MATRIX® FNV Herbicide containing rimsulfuron only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

All Other Refillable Containers: Refillable container. Refilling Container: Refill this container with MATRIX® FNV containing rimsulfuron only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

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"TwinJet" is a registered trademark of Delavan

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LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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To the extent consistent with applicable law that allows such requirement, DuPont or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

For product information call: 1-888-6-DUPONT

Internet address: www.dupont.com/ag/us

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DuPont™ Matrix® SG

herbicide

DuPont™ Matrix® SG

herbicide

WATER SOLUBLE GRANULE

For Weed Control in Citrus Fruit, Stone Fruit, Tree Nuts, Pome Fruit, Grapes, Potatoes, Potatoes grown for seed, and field grown Tomatoes

Active Ingredients	*By Weight*
Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide	25.0%
Other Ingredients	75.0%
TOTAL	100.0%

EPA REG. NO. 352-768 EPA Est. No. _____

Nonrefillable Container
Net: _____
OR
Refillable Container
Net: _____

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

IF SWALLOWED: No specific intervention is indicated as this product is not likely to be hazardous by ingestion. However, consult a poison control center or doctor if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

Long-sleeve shirt and long pants.
Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.
Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters or rinsate.

PRODUCT INFORMATION

DuPont™ MATRIX® SG herbicide must be used only in accordance with instructions on this label or in separate published DuPont labeling. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically instructed by DuPont.

MATRIX® SG herbicide is a water soluble granule formulation that selectively controls certain broadleaf weeds and grasses in pome fruit, citrus fruit, tree nut, stone fruit, and grape crops which have been established for at least one full growing season. MATRIX® SG herbicide also selectively controls certain broadleaf weeds and grasses in potatoes, potatoes grown for seed, and field grown tomatoes (direct seeded and transplant).

The best control is obtained when MATRIX® SG is applied to young, actively growing weeds. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

MATRIX® SG is registered for use in most states. Check with your state extension service or Department of Agriculture before use, to be certain MATRIX® SG is registered in your state.

TANK MIXTURES

To broaden the weed control spectrum and /or extend the residual effectiveness of MATRIX® SG herbicide, MATRIX® SG may be tank mixed with other registered herbicides affecting a different site of action (mode of action) and /or adjuvants registered for use on the crops listed on MATRIX® SG labeling.

Refer to the label(s) of the tank mix partner(s) for any additional use instructions or restrictions.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of this label.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency in your State responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.
Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
Shoes plus socks.

CITRUS FRUIT, STONE FRUIT, TREE NUTS, POME FRUIT, GRAPES

APPLICATION INFORMATION

MATRIX® SG should be applied as a uniform broadcast application to the orchard or vineyard floor or as a uniform band application directed at the base of the trunk or vine.

For broadcast applications, make a single application of MATRIX® SG at 4 ounces per acre per year. For improved weed management, MATRIX® SG should be applied in tank mixture with other registered preemergence herbicides.

When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year. However, do not apply more than 4 ounces per acre on a broadcast application basis per year. Unless otherwise specified on this label, or in separate published DuPont labeling, allow a minimum of 30 days between applications.

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacture's spray volume and pressure instructions for preemergence or postemergence herbicide applications.

Do not apply MATRIX® SG by air. Use ground application equipment only.

Apply only to crops that have been established for one full growing season and are in good health and vigor.

Best results are obtained when the soil is moist at the time of application, and 1/2 inch of rainfall or sprinkler irrigation occurs within 2 weeks after application. Time the application(s) to take advantage of normal rainfall patterns and cool temperatures. Moisture for activation should occur within 2-3 weeks after application.

DuPont™ MATRIX® SG may also be applied by certain chemigation methods, such as micro-sprinkler. However, do not apply by overhead, flood, or drip irrigation.

Avoid direct or indirect spray contact with crop foliage or fruit, except undesirable suckers.

Do not use MATRIX® SG in a spray solution with a pH of below 4.0 or above 8.0, or with spray additives that buffer the pH to below 4.0 or above 8.0, since degradation of MATRIX® SG may occur.

CROP GROUP / CROP	PRE-HARVEST INTERVAL (PHI)
Citrus Fruit: Calamondin; Citrus citron; Citrus hybrids (includes chironja, tangelo, tangor); Grapefruit; Kumquat; Lemon; Lime; Mandarin (tangerine); Orange (sweet and sour); Pummelo; Satsuma mandarin	3 days
Pome Fruit: Apple; Crabapple; Loquat; Mayhaw; Pear; Oriental pear; Quince	7 days
Tree Nuts: Almond; Beech nut; Brazil nut; Butternut; Cashew; Chestnut; Chinquapin; Filbert (hazelnut); Hickory nut; Macadamia nut (bush nut); Pecan; Pistachio; Walnut (black and English)	14 days
Stone Fruit: Apricot; Cherry (sweet and tart); Nectarine; Peach; Plum; Plum (Chickasaw); Plum (Damson); Plum (Japanese); Plumcot; Prune (fresh)	14 days
Grapes	14 days

WEEDS CONTROLLED

Rainfall or irrigation is needed for herbicide activation. Length of control is a function of moisture for activation, soil temperature, soil texture and amount of moisture after application.

When weeds are present at application, include a labeled burn down herbicide, such as glyphosate, paraquat, or glufosinate, with an appropriate adjuvant. MATRIX® SG will help provide postemergence control of the weeds listed in this label. For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant.

Residual weed control may be reduced when MATRIX® SG is applied where where heavy crop trash and/or weed residue exists.

Weed control may also be reduced when applications of MATRIX® SG are made to weeds under stress from drought, excessive water, temperature extremes, disease or low humidity.

PREEMERGENCE WEED CONTROL

Grasses

Barnyardgrass	*Echinochloa crus-galli*
Crabgrass, large	*Digitaria sanguinalis*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Quackgrass	*Agropyron repens*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves

Chamomile, False	*Matricaria maritima*
Dandelion, common (seedling)	*Taraxacum officinale*
Filaree, Redstem	*Erodium cicutarium*
Fleabane, hairy	*Conyza bonariensis*
Groundsel, common	*Senecio vulgaris*
Henbit	*Lamium amplexicaule*
Kochia	*Kochia scoparia*
Mallow, common	*Malva neglecta*
Marestail/horseweed	*Conyza canadensis*
Mustard, Birdsrape	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Puncturevine	*Tribulus terrestris*
Purslane, Common	*Portulaca oleracea*
Spurge, prostrate	*Euphorbia prostrata*
Spurge, spotted	*Euphorbia maculata*

PREEMERGENCE PARTIAL WEED CONTROL

Grasses

Wild Oat	*Avena fatua*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (established)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Nightshade, Black	*Solanum nigrum*
Nightshade, Hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, Prostrate	*Amaranthus blitoides*
Ragweed, Common	*Ambrosia artemisiifolia*
Velvetleaf	*Abutilon theophrasti*

POSTEMERGENCE WEED CONTROL

Grasses (1-2 inches)

Barley, Volunteer	*Hordeum vulgare*
Barnyardgrass	*Echinochloa crus-galli*
Bluegrass, Annual	*Poa annua*
Crabgrass, large (1/2 inch)	*Digitaria sanguinalis*
Foxtail, Bristly	*Setaria verticillata*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Panicum, Fall	*Panicum dichotomislorum*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves (1-3 inches)

Chamomile, False	*Matricaria maritima*
Chickweed, common	*Stellaria media*
Henbit	*Lamium amplexicaule*
Kochia	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Mustard, Wild	*Sinapis arvensis*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Purslane, common	*Portulaca oleracea*
Shepherd's-purse	*Capsella bursa-pastoris*
Wild Radish	*Raphanus raphanistrum*

POSTEMERGENCE PARTIAL WEED CONTROL

Grasses

Johnsongrass, seedling	*Sorghum halepense*
Millet, wild-proso	*Panicum miliaceum*
Oat, wild	*Avena fatua*
Quackgrass	*Agropyron repens*
Stinkgrass	*Eragrostis cilianensis*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (>6 inches in diameter)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Mallow, common	*Malva neglecta*
Nightshade, hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, prostrate	*Amaranthus blitoides*
Ragweed, common	*Ambrosia artemisiifolia*
Smartweed, Pennsylvania	*Polygonum pensylvanicum*
Thistle, Canada	*Cirsium arvense*
Velvetleaf	*Abutilon theophrasti*

SPECIFIC WEED PROBLEMS

COMMON DANDELION AND MALLOW: DuPont™ MATRIX® SG provides excellent preemergence control of common dandelion and mallow germinating from seed. In high rainfall areas or where sprinkler irrigation is used, a second application may be needed to extend residual control throughout the growing season.When applications are made postemergence to these weeds, always add a suitable burndown herbicide such as glyphosate or paraquat. Small and medium sized plants (up to 6 inches in diameter) are controlled by postemergence applications of MATRIX® SG plus a burndown herbicide; however, plants that are larger than 6 inches in diameter may only be suppressed and may require a second application 4 to 6 weeks later.

MARESTAIL AND FLEABANE: Where marestail and fleabane are the target weeds, applications prior to emergence provide best results. This may require a fall application to help prevent fall germinated seedlings from becoming established during the winter. A foliar active herbicide with activity on fleabane and marestail (such as paraquat, glyphosate, and glufosinate) must be tank mixed with MATRIX® SG for best control and resistance management. After Fall application, a second application in the spring may be required to provide extended weed control into the summer. Where MATRIX® SG is applied for control of Marestail and Fleabane, it is also recommended that another soil residual herbicide be included as a tank mix or rotational partner to aid in resistance management.

PUNCTUREVINE: For best results, apply early in the spring when you can expect rainfall or overhead irrigation to move MATRIX® SG into the weed root zone before puncturevine germinates. Puncturevine emerges over a long period of time and late season germinations may not be controlled.

YELLOW NUTSEDGE: MATRIX® SG provides suppression of yellow nutsedge. To obtain the most effective results, use the highest rate allowed based on the width of your spray band and make two applications. For applications made postemergence to nutsedge, always add the appropriate rate of glyphosate and an effective adjuvant. On soils with high organic matter (6% or higher) always apply postemergence to weeds since preemergence applications are not as effective on these soils.

Application Timing - Yellow Nutsedge

Preemergence plus Early Postemergence: Make the preemergence application when you can expect rainfall or overhead irrigation to move MATRIX® SG into the nutsedge root zone prior to nutsedge emergence. Make a second application when emerging nutsedge is 2 to 4 inches tall. **Postemergence plus Postemergence**: Make first application when emerging nutsedge is 2 to 4 inches tall. Repeat application 14 days later. **Note**: If yellow nutsedge is greater than 6 inches tall at the first application, weed control effectiveness will be greatly reduced.

ANNUAL SUMMER GRASSES (such as Barnyardgrass, Green foxtail, and Crabgrass): Where sprinkler irrigation is used, a fall or early spring application of MATRIX® SG will not provide season-long control of summer grasses like foxtail, barnyardgrass and crabgrass. For best results, use MATRIX® SG with a suitable tank-mix herbicide such as oryzalin or pendimethalin. A second application may be needed to provide extended control of summer grasses.

USE PRECAUTIONS

- Direct sprays to minimize spray contact with fruit or foliage.

Diuron Containing Products (Washington and Oregon): On coarse textured soils where crops are grown under sprinkler irrigation, avoid using diuron containing products (such as, Karmex XP or Direx 4L) as a tank-mix partner with MATRIX® SG between June 1 and September 30 since crop injury may result. MATRIX® SG tank-mixed with diuron products can be used in the fall (after September 30), or early spring when temperatures are cool to moderate.

CROP ROTATION - Fruit, Nut, and Vine Crops

Do not plant any crops, except field corn, tomatoes, potatoes, and those listed on this label in the "APPLICATION INFORMATION Section", within one year of the last MATRIX® SG application. Prior to planting, fields to be rotated to the above crops should have a thorough soil mixing - for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay should be completed prior to planting any other desired crops. The results of this bioassay may require the crop rotation interval to be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip should cross the entire field including knolls and low areas.

MICRO-SPRINKLER CHEMIGATION - Fruit, Nut, and Vine Crops

MATRIX® SG may be applied via micro-sprinkler chemigation. The chemigation system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional (normally closed) solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump

motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide(s) and capable of being fitted with a system interlock. Do not apply DuPont™ MATRIX® SG through any other chemigation equipment.

USE PRECAUTIONS FOR CHEMIGATION - Fruit, Nut, and Vine Crops

- Do not connect an irrigation system used for MATRIX® SG Herbicide application to a public water system.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.
- Continuous agitation in the mix tank is needed to keep the product from settling. If settling does occur, thoroughly re-agitate the tank mixture before using.

POTATOES

APPLICATION INFORMATION

PRE-EMERGENCE APPLICATIONS

For best results, apply MATRIX® SG at 1 to 1-1/2 oz product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® SG 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® SG postemergence would result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, add a spray adjuvant to the spray mix (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of MATRIX® SG. Do not apply MATRIX® SG within 60 days of potato harvest. Do not exceed 2.5 oz of MATRIX® SG per acre per year.

TANK MIXTURES - PREEMERGENCE APPLICATIONS

MATRIX® SG may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E", "Prowl", "Lorox" DF, DuPont™ CINCH® or "Dual II Magnum", "Roundup" or glyphosate-containing products registered for potatoes) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® SG with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® SG and the tank mix partner(s).

MATRIX® SG may also be used in three-way tank mix combinations with the above pesticide(s). If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG.

MATRIX® SG plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® SG at 1 to 1-1/2 oz per acre and Metribuzin at 1/3 to 1 1/3 lb per acre for better control of such weeds as kochia, Russian thistle and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the Metribuzin label for your area.

MATRIX® SG plus "Eptam 7E"

Apply a tank mix of MATRIX® SG at 1 to 1-1/2 oz per acre and "Eptam 7E" at label rates for better control of weeds such as hairy nightshade and crabgrass. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Since the rates and incorporation methods of "Eptam 7E" vary by region, follow the instructions for your region. It is recommended to incorporate a tank mix of "Eptam 7E" + MATRIX® SG using irrigation, and not equipment, to prevent poor weed control from deep incorporation of the MATRIX® SG.

If your area does not allow incorporation using irrigation, then apply "Eptam 7E" and MATRIX® SG in a split application. Read and follow both product labels for your area.

MATRIX® SG plus Pendimethalin (Such as "Prowl")

Apply a tank mix combination of MATRIX® SG at 1 to 1-1/2 oz per acre and "Prowl" at label rates for better control of such weeds as kochia, crabgrass, and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Prowl" label for your area.

MATRIX® SG plus Linuron (Such as "Lorox" DF)

Apply a tank mix combination of MATRIX® SG at 1 to 1-1/2 oz per acre and "Lorox" DF at 1 to 4 lb per acre for better control of such weeds as common lambsquarter and common ragweed. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Lorox" DF label for your area.

MATRIX® SG Plus S-Metalochlor (Such as DuPont™ CINCH® or "Dual II Magnum")

Apply a tank mix combination of MATRIX® SG at 1 to 1-1/2 oz per acre and CINCH® or "Dual II Magnum" at 1 to 2 pt per acre for better control of such weeds as yellow nutsedge and black nightshade. For best results apply after hilling or

drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow both product labels for your area.

POSTEMERGENCE APPLICATIONS - POTATOES

For postemergence applications, apply DuPont™ MATRIX® SG at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the "Specific Weed Problem" section of this label for more information).

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application of MATRIX® SG. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® SG postemergence, rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® SG in the soil and help provide control of subsequent flushes of annual weeds.

TANK MIXTURES (POTATOES)- POSTEMERGENCE APPLICATIONS

MATRIX® SG may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E" and metribuzin) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® SG with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® SG and the tank mix partner(s).

MATRIX® SG may also be used in three-way tank mix combinations with the above pesticide(s). If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG.

MATRIX® SG Plus Foliar Fungicides

MATRIX® SG may be tank mixed with other suitable registered fungicides on potatoes (such as DuPont™ CURZATE® 60DF, "Manzate", and "Bravo").

Read and follow all manufacturer's label instructions for the companion fungicide. If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG.

MATRIX® SG Plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® SG at 1 to 1-1/2 oz per acre and Metribuzin (such as "Sencor") at 1/4 to 2/3 lb per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds. Use a nonionic surfactant (NIS) at 0.125 % v/v (1 pt/100 gal of water). The addition of adjuvants to post emergence metribuzin applications may reduce crop tolerance. Adjuvants should be used with caution.

When possible, avoid post emergence applications on metribuzin sensitive varieties or if the crop is under stress. Read and follow both product labels for your area.

Note: The use of crop oil concentrate (COC) or methylated seed oil (MSO) is not recommended for tank mix combinations with MATRIX® SG plus Metribuzin.

MATRIX® SG Plus "Eptam 7E"

Apply MATRIX® SG herbicide at 1 to 1.5 ounce per acre in tankmix with 1 pint per acre of "Eptam 7E" herbicide. Include 1% volume/volume (1 gal per 100 gal spray solution) of either of a modified seed oil adjuvant (MSO) or 0.5% volume/volume (0.5 gal per 100 gal spray solution) of a organo-silicon/modified seed oil blend (OS/MSO – such as "Dyne-Amic", "Rivet", or "Phase"). Include 2 lb/acre of a spray-grade ammonium sulfate (AMS).

For best results, rainfall or sprinkler irrigation of 1/3 to 1 " (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application.

Additional "Eptam 7E" can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the "Eptam 7E" label before use. If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG.)

Precautions:

- Crop Injury can occur (leaf burn and temporary yellowing) when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.

In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

SEQUENTIAL APPLICATIONS - POTATOES

Depending upon rainfall or other environmental conditions, and the density of the top growth of the potato variety (those with poor top growth such as Norkotah), annual weeds may have a second flush of germinating seedlings, and treated perennials may produce new growth from underground roots or stems. To maximize control of such weeds, it may be necessary to apply MATRIX® SG a second time, 14 to 28 days after the first application (typically, make applications to small weeds that are less than 1" in height or diameter that are actively growing). The combined rate of the applications cannot exceed 2.5 oz MATRIX® SG per acre.

POTATOES GROWN FOR SEED

MATRIX® SG may be used on potatoes grown for seed that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting*.

Apply MATRIX® SG by any of the following methods:

- Preemergence 1.5 oz per acre
- Postemergence at 1.0 to 1.5 oz per acre
- In a sequential application Preemergence at 1.0-1.5 oz per acre, followed by Postemergence at 1.0 oz per acre
- Postemergence at 1.0 oz per acre followed by Postemergence at 1.0 oz per acre.

Do not exceed 2.5 oz per acre of MATRIX® SG in the same year.

To activate MATRIX® SG preemergence, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1"

(sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to moveDuPont™ MATRIX® SG 2" to 3" deep into the soil profile.

Restrictions

- Do not apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- Do not use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the generally shorter growing seasons and different cultural practices in seed production in the states of California, Idaho, Oregon, Montana, South Dakota, Washington, Colorado, and parts of North Dakota**.

Precautions

- The rotational crop interval listed in the MATRIX® SG label may need to be extended to 18 months if seed potato production practices decrease water and/or time for MATRIX® SG breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at anytime.
- Consider informing your state seed certification agency or inspector that MATRIX® SG has been applied. Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.

* First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced microtubers, minitubers, stem cuttings, or line selections.

** All counties in North Dakota except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

WEEDS CONTROLLED - POTATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Pigweed, Prostrate	(Amaranthus blitoides)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade†, Black	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

† Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed

POSTEMERGENCE CONTROL

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Quackgrass†	(Agropyron repens)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

** Except in California

‡ Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

AERIAL APPLICATION

(See Also SPRAY DRIFT)

- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. In California use a minimum of 10 GPA.
- Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.
- Do not apply by air in the state of California, except in Modoc or Siskiyou counties. Do not apply by air in the state of New York.

CHEMIGATION - POTATOES ONLY

DuPont™ MATRIX® SG can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply MATRIX® SG using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply MATRIX® SG uniformly may result in crop injury and/or poor weed control.

For best results, use the highest labeled rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a nonionic surfactant containing at least 80% active ingredient to the spray mix at 1 to 2 pt/acre.

MATRIX® SG may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application.

For solid set and hand move irrigation systems, apply MATRIX® SG at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

For center pivot and lateral move irrigation systems, apply MATRIX® SG in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact State Extension Service specialists, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, should make the necessary adjustments.

IRRIGATION SYSTEM REQUIREMENTS

The irrigation system must contain the following:

- a functional check valve
- vacuum relief valve
- a low pressure drain (to prevent water source contamination from backflow; should be located on the irrigation pipeline)
- functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)
- a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- a functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- a functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (should be connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

CHEMIGATION PRECAUTIONS

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, and apply the mixture for the proper length of time.

- Do not permit run-off during chemigation.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not connect an irrigation system (including greenhouse systems) used for MATRIX® SG application to a public water system.

MATRIX® SG ROTATIONAL CROP GUIDELINES - POTATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® SG. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline

Rotation Crop	Interval (months)
Alfalfa**	4
Barley, Spring *	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA)**	4
Carrots**	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed**	4
Mint**	4
Oats, Spring	9
Onions**	10
Peas**	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9
Wheat, Winter	4
Crops Not Listed	18

* Idaho - 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20.

Colorado - Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 oz or less DuPont™ MATRIX® SG per acre per season--9 months; greater than 1.5 oz of MATRIX® SG per acre per season--18 months

**Potatoes grown under sprinkler irrigation with a minimum of 18 inches of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 inches of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 inches of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

For Rotation to Alfalfa: MATRIX® SG in potatoes not to exceed 1 ounce per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 1.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Onions and Carrots: MATRIX® SG in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 ounces per acre per season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Grass Crops Grown for Seed, Hay or Pasture: MATRIX® SG in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Peas and Mints: MATRIX® SG in potatoes not to exceed 1.5 ounces per acre per use season in all areas.

NOTE: MATRIX® SG should not be used in a tankmix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.

RESTRICTIONS

Potatoes

- Do not apply MATRIX® SG on potatoes within 60 days of harvest.
- Do not exceed 2.5 oz MATRIX® SG per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use MATRIX® SG on potatoes grown for seed, except as directed on this labeling or supplemental labeling.
- Do not apply to potatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to potatoes growing in fields.

TOMATOES (DIRECT SEEDED AND TRANSPLANT)

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® SG after seeding at 2.0-4.0 oz. product per acre.

To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® SG 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® SG postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® SG.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 1.0-2.0 oz product per acre (use 2.0 oz per acre for longer residual) to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color)may occur after application of MATRIX® SG. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® SG postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® SG in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® SG should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS TOMATOES

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX® SG.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® SG may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® SG cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of DuPont™ MATRIX® SG may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® SG cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS - TOMATOES

MATRIX® SG can be applied preemergence and postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See the "Preemergence Applications" and "Postemergence Applications" sections of this label for additional details on the use of MATRIX® SG.

TANK MIXTURES - TOMATOES

MATRIX® SG may be tank mixed with pesticide products labeled for use on tomatoes in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® SG with another tomato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® SG and the tank mix partner(s).

MATRIX® SG may also be used in three-way tank mix combinations with the above pesticide(s). If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI700 surfactant).

MATRIX® SG Plus Foliar Fungicides

MATRIX® SG may be tank mixed with other suitable registered fungicides on tomatoes (such as "Manzate", and "Bravo"). Tank mixes with Copper containing fungicides may reduce weed control.

Read and follow all manufacturers' label instructions for the companion fungicide. If these instructions conflict with this MATRIX® SG label, do not use as a tank mix with MATRIX® SG.

TOMATOES: CALIFORNIA

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® SG after seeding at 2.0-4.0 oz. product per acre. To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® SG 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® SG postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® SG.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 2.0 oz. product per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color) may occur after application of MATRIX® SG. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® SG postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® SG in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® SG should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX® SG.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® SG may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® SG cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of MATRIX® SG may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® SG cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS – TOMATOES:

DuPont™ MATRIX® SG can be applied in a preemergence band at 2.0 - 4.0 oz. product per acre (For example, 0.5-1.0 oz. of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

MATRIX® SG can be applied using three postemergence band applications at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding).

Do not make any more than three band applications of MATRIX® SG in one growing season.

WEEDS CONTROLLED - TOMATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Black	(Brassica nigra)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade*, Black†	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade suppression is only for use in Tomatoes in California.

† See Specific Weed Problems

POSTEMERGENCE CONTROL (Weeds not to exceed 1" in height)

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp.)
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Quackgrass†	(Agropyron repens)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black (cotyledon stage only)	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade partial control is only for use in Tomatoes in California.

**Except California

‡ Partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

MATRIX® SG ROTATIONAL CROP GUIDELINES - TOMATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® SG. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation Crop	Interval (months)
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

Note: Where drip irrigated tomatoes are grown, rotate only to tomato, potato or field corn as crop injury may result.

Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

RESTRICTIONS

Tomatoes

- Do not apply DuPont™ MATRIX® SG within 45 days of tomato harvest.
- Do not apply MATRIX® SG by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4.0 oz. MATRIX® SG per acre (broadcast basis) on tomatoes during the same growing season.
- Banding applications of MATRIX® SG should not exceed 4.0 ounces on a broadcast basis in the same growing season.
- Do not apply to tomatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to tomatoes growing in fields.
- Do not apply through any type of irrigation system.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of MATRIX® SG.

- Cultivation up to 7 days before the postemergence application of MATRIX® SG may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by MATRIX® SG.
- To allow MATRIX® SG to fully control treated weeds, cultivation is not recommended for 7 days after application.
- Optimum timing for cultivation is 7 - 14 days after a postemergence application of MATRIX® SG.

SPECIFIC WEED PROBLEMS

Quackgrass: For best results, apply MATRIX® SG postemergence to quackgrass that is 4 to 8" tall. Quackgrass not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

Black Nightshade (Tomatoes): For best results, apply MATRIX® SG preemergence (prior to weed germination) at 2 - 4 oz per acre followed by a postemergence application at 1 to 2 oz per acre to small actively growing weeds.

Canada Thistle: For best results, apply MATRIX® SG postemergence to small actively growing Canada thistle. Canada thistle not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

SPRAY ADJUVANTS

Include a spray adjuvant with applications of MATRIX® SG when applied by itself and postemergence to the weeds. Consult your Ag dealer or applicator, local DuPont fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with MATRIX® SG, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

Nonionic Surfactant (NIS)

- Apply 0.125 to 0.25% v/v (1 to 2 pt/100 gal of water). The 0.25% v/v rate is preferred under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

- Apply at 1% volume/volume (1 gal per 100 gal spray solution), or 2% under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Blended products which contain both MSO and Silcone are acceptable at labeled rates.

Ammonium Nitrogen Fertilizer

- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/acre of a spray grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS and ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- Do not use any other adjuvant rates or mixtures with MATRIX® SG unless instructed to do so on DuPont Technical Bulletins.

Precautions:

1. The use of silicone polymer type surfactants is not suggested as reduced weed control may result.
2. Avoid using crop oil concentrate (COC) or methylated seed oil (MSO) when potatoes are under heat stress (>85 degrees F) as multiple stresses may cause crop injury.

EQUIPMENT-SPRAY VOLUMES

Agitate the spray tank continuously to keep the material in suspension.

Do not use equipment and/or spray volumes that will cause damage from spray by drift onto nontarget sites. Do not make applications when weather conditions are likely to cause spray to drift onto nontarget sites. (See the "Spray Drift Management" section of this label for additional information).

GROUND APPLICATION - POTATOES AND TOMATOES

To ensure optimum spray distribution and thorough coverage, apply MATRIX® SG with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, "Twinjet", underleaf banding nozzles or flood jet nozzles. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution.

With ground application equipment, use enough water to deliver 10 to 40 gal total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

SPRAYER CLEANUP

Spray equipment or nurse tanks used in chemigation, must be cleaned before DuPont™ MATRIX® SG is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the 6 steps outlined in the "After Spraying MATRIX® SG and before Spraying Other Crops" section of this label.

For maximum preemergence activity, prior to application, the bed or soil surface should be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of MATRIX® SG . Cutting water furrows, or cultivations that mix untreated soil into the treated areas, will also reduce the effectiveness of the herbicide treatment.

For best weed management apply MATRIX® SG with another suitable residual herbicide registered for that crop. This is recommended for all soil types, but especially so for coarse textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of MATRIX® SG may be needed to provide extended weed control.

ADDITIONAL USE INFORMATION - ALL CROPS AND USES

MIXING INSTRUCTIONS

MATRIX® SG must be completely dissolved in cleanwater before adding to spray tanks that do not havecontinuous agitation during loading and mixing. (This iscommon for airplanes with turbine engines).

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of MATRIX® SG herbicide.
3. Continue agitation until the MATRIX® SG herbicide is fully dissolved, at least 5 minutes.
4. Once the MATRIX® SG herbicide is fully dissolved, maintain agitation and continue filling tank with water.
5. As the tank is filling, add tank mix partners (if desired) then add the required of spray adjuvant (if needed). Always add the spray adjuvant last.
6. Dispersed tank mix partners can settle if the tank mixtureis not continually agitated. If settling occurs, thoroughlyre-agitate before using.
7. Apply MATRIX® SG herbicide spray mixture within 24 hours of mixing to avoid product degradation.
8. If MATRIX® SG and a tank mix partner are to be applied in multiple loads, fully dissolve the MATRIX® SG in clean water prior to adding to the tank.

If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide.

SPRAYER CLEANUP

The spray equipment must be cleaned before MATRIX® SG is sprayed. Follow the cleanup procedures specified on thelabels of the previously applied products. If no directions areprovided, follow the steps outlined in the "AfterSpraying MATRIX® SG and before Spraying Other Crops" section of this label.

At the End of the Day

When multiple loads of MATRIX® SG herbicide are applied, it is recommended that during periods at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses be flushed. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

After Spraying MATRIX® SG and before Spraying Other Crops

To avoid subsequent injury to desirable crops, thoroughlyclean all mixing and spray equipment immediatelyfollowing applications of MATRIX™ SG as follows:

1. Empty the tank and drain the sump completely.
2. Spray the tank walls with clean water using a minimumvolume of 10% of the tank volume. Circulate the waterthrough the lines, including all by-pass lines, for at leasttwo minutes. Flush the boom well and empty the sprayer.Completely drain the sump.
3. Repeat step 2.
4. Remove the nozzles and screens and clean separately in abucket containing water.

The rinsate solution may be applied back to the crop(s) listed on this label. Do not exceed the maximumlabeleduse rate. If cleaners are used, consult the cleanerlabel for rinsate disposal instructions. If no instructions aregiven, dispose of the rinsate on site or at an approved wastedisposal facility.

Notes:

1. Always start with a clean spray tank.
2. Steam-cleaning aerial spray tanks is recommended tofacilitate the removal of any caked deposits.
3. When MATRIX™ SG is tank mixed withother pesticides, all cleanout procedures for each productshould be examined and the most rigorous procedureshould be followed.
4. Follow any pre-cleanout guidelines recommended onother product labels.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR. Where states have more stringent regulations, they must be followed.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of

sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

CONTROLLING DROPLET SIZE - AIRCRAFT

- Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length - the boom length should not exceed 3/4 of the wing or rotor length--longer booms increase drift potential.
- Application Height - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Set the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

DuPont™ MATRIX® SG is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For Preemergence weed control, rainfall or sprinkler irrigation is needed to move MATRIX® SG into the soil. Weeds will generally not emerge from Preemergence applications. In some cases, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

MATRIX® SG provides the best control of weeds in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not provide satisfactory control. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

The herbicidal action of MATRIX® SG may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to MATRIX® SG.

Postemergence Weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow MATRIX® SG to be sufficiently absorbed by weed foliage (generally MATRIX® SG is rainfast in 4 hours).

RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in the field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide usage available in your area.

Naturally occurring weed biotypes that are resistant to "Amber" herbicide, DuPont™ ALLY® herbicide, DuPont™ GLEAN® FC herbicide, DuPont™ EXPRESS® herbicide, DuPont™ HARMONY® EXTRA herbicide, or DuPont™ FINESSE® herbicide will also be resistant to DuPont™ MATRIX® SG.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

PRECAUTIONS

- Potato and tomato varieties may differ in their response to various herbicides. DuPont recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use to a small area.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes and tomatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- If sprinklers are used for frost protection, delay the application of MATRIX® SG until stress from environmental conditions have passed.
- Avoid spray drift to any adjacent crops or desirable plants as injury may occur.
- Crop injury may occur following an application of MATRIX® SG if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Draining or flushing equipment on or near desirable trees or other plants, or in areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots may injure these plants. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.
- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- For best results, maintain spray tank solution at pH 5 to 7.
- Do not apply to frozen or snow covered soil. Crop injury may occur from applications made to poorly drained soils.
- If the selected companion herbicide has a ground or surface water advisory, consider the advisory when using the companion herbicide.
- Tank mixing MATRIX® SG with Organophosphate insecticides in tomatoes may result in crop injury.

RESTRICTIONS

- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:

- Do not apply, drain, or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.
- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage crops other than potatoes or tomatoes.

- Do not apply using Air Assisted (Air Blast) field crop sprayers.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store product in original container only. Store in a cool, dry place.

Pesticide Disposal: Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with DuPont™ MATRIX® SG Herbicide containing rimsulfuron only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

All Other Refillable Containers: Refillable container. Refilling Container: Refill this container with DuPont™ MATRIX® SG containing rimsulfuron only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

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LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

To the extent consistent with applicable law that allows such requirement, DuPont or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

For product information call: 1-888-6-DUPONT

Internet address: www.dupont.com/ag/us

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H - 65613

DuPont™ Matrix®

herbicide

"..... A Growing Partnership With Nature"

DuPont™ Matrix®

herbicide

DRY FLOWABLE

For Weed Control In Potatoes, Potatoes grown for seed, field grown Tomatoes, Citrus Fruit, Stone Fruit, Tree Nuts, Pome Fruit, and Grapes

Active Ingredients	*By Weight*
Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide	25.0%
Inert Ingredients	75.0%
TOTAL	100.0%

EPA REG. NO. 352-556

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

Long-sleeve shirt and long pants.
Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
Shoes plus socks.

Discard clothing and other absorbent material that have been drenched or heavily contaminated with this product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170 Section 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

GENERAL INFORMATION

DuPont™ MATRIX® herbicide must be used only in accordance with recommendations on this label or in separate published DuPont recommendations. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically recommended by DuPont.

MATRIX® herbicide is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in potatoes, potatoes grown for seed, and field grown tomatoes (direct seeded and transplant). MATRIX® herbicide also selectively controls certain broadleaf weeds and grasses in pome fruit, citrus fruit, tree nut, stone fruit, and grape crops which have been established for at least one full growing season.

MATRIX® is recommended for use in most states. Check with your state extension service or Department of Agriculture before use, to be certain MATRIX® is registered in your state.

The best control is obtained when MATRIX® is applied to young, actively growing weeds. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

MATRIX® is noncorrosive to equipment, nonflammable, and nonvolatile.

MATRIX® is formulated as a dry flowable product. Continuous agitation is required to maintain the product in suspension in the spray tank.

TANK MIXTURES

To broaden the weed control spectrum and /or extend the residual effectiveness of MATRIX® herbicide, MATRIX® may be tank mixed with other registered herbicides affecting a different site of action (mode of action) and /or adjuvants registered for use on the crops listed on MATRIX® labeling.

Refer to the label(s) of the tank mix partner(s) for any additional use instructions or restrictions.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of this label.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency in your State responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.
Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
Shoes plus socks.

POTATOES

APPLICATION INFORMATION

PRE-EMERGENCE APPLICATIONS

For best results, apply MATRIX® at 1 to 1-1/2 oz product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® postemergence would result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, add a spray adjuvant to the spray mix (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of MATRIX®. Do note apply MATRIX® within 60 days of potato harvest. Do not exceed 2.5 oz of MATRIX® per acre per year.

TANK MIXTURES - PREEMERGENCE APPLICATIONS

MATRIX® may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E", "Prowl", "Lorox" DF, DuPont™ CINCH® or "Dual II Magnum",

"Roundup" or glyphosate-containing products registered for potatoes) in accordance with the most restrictive of label limitations and precautions. When tank mixing DuPont™ MATRIX® with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

MATRIX® plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and Metribuzin at 1/3 to 1 1/3 lb per acre for better control of such weeds as kochia, Russian thistle and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the Metribuzin label for your area.

MATRIX® plus "Eptam 7E"

Apply a tank mix of MATRIX® at 1 to 1-1/2 oz per acre and "Eptam 7E" at label rates for better control of weeds such as hairy nightshade and crabgrass. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Since the rates and incorporation methods of "Eptam 7E" vary by region, follow the recommendations for your region. It is recommended to incorporate a tank mix of "Eptam 7E" + MATRIX® using irrigation, and not equipment, to prevent poor weed control from deep incorporation of the MATRIX®.

If your area does not allow incorporation using irrigation, then apply "Eptam 7E" and MATRIX® in a split application. Read and follow both product labels for your area.

MATRIX® plus Pendimethalin (Such as "Prowl")

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and "Prowl" at label rates for better control of such weeds as kochia, crabgrass, and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Prowl" label for your area.

MATRIX® plus Linuron (Such as "Lorox" DF)

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and "Lorox" DF at 1 to 4 lb per acre for better control of such weeds as common lambsquarter and common ragweed. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the "Lorox" DF label for your area.

MATRIX® Plus S-Metalochlor (Such as DuPont™ CINCH® or "Dual II Magnum")

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and CINCH® or "Dual II Magnum" at 1 to 2 pt per acre for better control of such weeds as yellow nutsedge and black nightshade. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow both product labels for your area.

POSTEMERGENCE APPLICATIONS - POTATOES

For postemergence applications, apply MATRIX® at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the "Specific Weed Problem" section of this label for more information).

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application of MATRIX®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® postemergence, rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® in the soil and help provide control of subsequent flushes of annual weeds.

TANK MIXTURES (POTATOES)- POSTEMERGENCE APPLICATIONS

MATRIX® may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E" and metribuzin) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

MATRIX® Plus Foliar Fungicides

MATRIX® may be tank mixed with other suitable registered fungicides on potatoes (such as DuPont™ CURZATE® 60DF, "Manzate", and "Bravo").

Read and follow all manufacturer's label recommendations for the companion fungicide. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

MATRIX® Plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and Metribuzin (such as "Sencor") at 1/4 to 2/3 lb per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds. Use a nonionic surfactant (NIS) at 0.125 % v/v (1 pt/100 gal of water). The addition of adjuvants to post emergence metribuzin applications may reduce crop tolerance. Adjuvants should be used with caution.

When possible, avoid post emergence applications on metribuzin sensitive varieties or if the crop is under stress. Read and follow both product labels for your area.

Note: The use of crop oil concentrate (COC) or methylated seed oil (MSO) is not recommended for tank mix combinations with MATRIX® plus Metribuzin.

DuPont™ MATRIX® Plus "Eptam 7E"

Apply MATRIX® herbicide at 1 to 1.5 ounce per acre in tankmix with 1 pint per acre of "Eptam 7E" herbicide. Include 1% volume/volume (1 gal per 100 gal spray solution) of either of a modified seed oil adjuvant (MSO) or 0.5% volume/volume (0.5 gal per 100 gal spray solution) of a organo-silicon/modified seed oil blend (OS/MSO – such as "Dyne-Amic", "Rivet", or "Phase"). Include 2 lb/acre of a spray-grade ammonium sulfate (AMS).

For best results, rainfall or sprinkler irrigation of 1/3 to 1 " (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application.

Additional "Eptam 7E" can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the "Eptam 7E" label before use. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.)

Precautions:

- Crop Injury can occur (leaf burn and temporary yellowing) when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.

In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

SEQUENTIAL APPLICATIONS - POTATOES

Depending upon rainfall or other environmental conditions, and the density of the top growth of the potato variety (those with poor top growth such as Norkotah), annual weeds may have a second flush of germinating seedlings, and treated perennials may produce new growth from underground roots or stems. To maximize control of such weeds, it may be necessary to apply MATRIX® a second time, 14 to 28 days after the first application (typically, make applications to small weeds that are less than 1" in height or diameter that are actively growing). The combined rate of the applications cannot exceed 2.5 oz MATRIX® per acre.

POTATOES GROWN FOR SEED

MATRIX® may be used on potatoes grown for seed that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting*.

Apply MATRIX® by any of the following methods:

- Preemergence 1.5 oz per acre
- Postemergence at 1.0 to 1.5 oz per acre
- In a sequential application Preemergence at 1.0-1.5 oz per acre, followed by Postemergence at 1.0 oz per acre
- Postemergence at 1.0 oz per acre followed by Postemergence at 1.0 oz per acre.

Do not exceed 2.5 oz per acre of MATRIX® in the same year.

To activate MATRIX® preemergence, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® 2" to 3" deep into the soil profile.

Restrictions

- Do not apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- Do not use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the generally shorter growing seasons and different cultural practices in seed production in the states of California, Idaho, Oregon, Montana, South Dakota, Washington, Colorado, and parts of North Dakota**.

Precautions

- The rotational crop interval listed in the MATRIX® label may need to be extended to 18 months if seed potato production practices decrease water and/or time for MATRIX® breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at anytime.
- Consider informing your state seed certification agency or inspector that MATRIX® has been applied. Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.

* First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced microtubers, minitubers, stem cuttings, or line selections.

** All counties in North Dakota except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

WEEDS CONTROLLED - POTATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Pigweed, Prostrate	(Amaranthus blitoides)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade†, Black	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

† Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed

POSTEMERGENCE CONTROL

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Quackgrass†	(Agropyron repens)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

** Except in California

‡ Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

AERIAL APPLICATION

(See Also SPRAY DRIFT)

- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. In California use a minimum of 10 GPA.
- Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.
- Do not apply by air in the state of California, except in Modoc or Siskiyou counties. Do not apply by air in the state of New York.

CHEMIGATION - POTATOES ONLY

DuPont™ MATRIX® can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply MATRIX® using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply MATRIX® uniformly may result in crop injury and/or poor weed control.

For best results, use the highest recommended rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a nonionic surfactant containing at least 80% active ingredient to the spray mix at 1 to 2 pt/acre.

MATRIX® may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application.

For solid set and hand move irrigation systems, apply MATRIX® at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

For center pivot and lateral move irrigation systems, apply MATRIX® in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact State Extension Service specialists, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, should make the necessary adjustments.

IRRIGATION SYSTEM REQUIREMENTS

The irrigation system must contain the following:

- a functional check valve
- vacuum relief valve
- a low pressure drain (to prevent water source contamination from backflow; should be located on the irrigation pipeline)
- functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)
- a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- a functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- a functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (should be connected to the system interlock to prevent fluid from

being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

CHEMIGATION PRECAUTIONS

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the recommended rate, use sufficient water, and apply the mixture for the proper length of time.

- Do not permit run-off during chemigation.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not connect an irrigation system (including greenhouse systems) used for DuPont™ MATRIX® application to a public water system.

MATRIX® ROTATIONAL CROP GUIDELINES - POTATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX®. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline

Rotation Crop	Interval (months)
Alfalfa**	4
Barley, Spring *	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA)**	4
Carrots**	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed**	4
Mint**	4
Oats, Spring	9
Onions**	10
Peas**	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9
Wheat, Winter	4
Crops Not Listed	18

* Idaho - 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20.

Colorado - Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 oz or less MATRIX® per acre per season--9 months; greater than 1.5 oz of MATRIX® per acre per season--18 months

**Potatoes grown under sprinkler irrigation with a minimum of 18 inches of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 inches of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 inches of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

For Rotation to Alfalfa: MATRIX® in potatoes not to exceed 1 ounce per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® in potatoes not to exceed 1.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Onions and Carrots: MATRIX® in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® in potatoes not to exceed 2.5 ounces per acre per season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Grass Crops Grown for Seed, Hay or Pasture: MATRIX® in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® in potatoes not to exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

For Rotation to Peas and Mints: MATRIX® in potatoes not to exceed 1.5 ounces per acre per use season in all areas.

NOTE: MATRIX® should not be used in a tankmix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.

RESTRICTIONS

Potatoes

- Do not apply MATRIX® on potatoes within 60 days of harvest.
- Do not exceed 2.5 oz MATRIX® per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use MATRIX® on potatoes grown for seed, except as directed on this labeling or supplemental labeling.
- Do not apply to potatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to potatoes growing in fields.

TOMATOES (DIRECT SEEDED AND TRANSPLANT)

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® after seeding at 2.0-4.0 oz. product per acre.

To activate MATRIX® in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds

that have an established root system before activation of DuPont™ MATRIX®.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® at 1.0-2.0 oz product per acre (use 2.0 oz per acre for longer residual) to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color)may occur after application of MATRIX®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS TOMATOES

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX®.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of MATRIX® may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS - TOMATOES

MATRIX® can be applied preemergence and postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See the "Preemergence Applications" and "Postemergence Applications" sections of this label for additional details on the use of MATRIX®.

TANK MIXTURES - TOMATOES

MATRIX® may be tank mixed with pesticide products labeled for use on tomatoes in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® with another tomato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI700 surfactant).

MATRIX® Plus Foliar Fungicides

MATRIX® may be tank mixed with other suitable registered fungicides on tomatoes (such as "Manzate", and "Bravo"). Tank mixes with Copper containing fungicides may reduce weed control.

Read and follow all manufacturers' label recommendations for the companion fungicide. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

TOMATOES: CALIFORNIA

PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® after seeding at 2.0-4.0 oz. product per acre. To activate MATRIX® in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® postemergence may result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX®.

POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® at 2.0 oz. product per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% V/V (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% V/V may result in temporary crop

chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color) may occur after application of DuPont™ MATRIX®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® postemergence, rainfall or sprinkler irrigation of 1/2 to 1 " (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® should be made after the tomatoes reach the cotyledon stage.

SEQUENTIAL APPLICATIONS

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX®.

PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® may be applied Preemergence followed by single or multiple applications Postemergence.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of MATRIX® may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

BAND APPLICATIONS – TOMATOES:

MATRIX® can be applied in a preemergence band at 2.0 - 4.0 oz. product per acre (For example, 0.5-1.0 oz. of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

MATRIX® can be applied using three postemergence band applications at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding).

Do not make any more than three band applications of MATRIX® in one growing season.

WEEDS CONTROLLED - TOMATO

PREEMERGENCE CONTROL

Grasses

Barnyardgrass	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Black	(Brassica nigra)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

PREEMERGENCE (PARTIAL CONTROL)

Grasses

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

Broadleaves

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade*, Black†	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade suppression is only for use in Tomatoes in California.

† See Specific Weed Problems

POSTEMERGENCE CONTROL (Weeds not to exceed 1" in height)

Grasses

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp.)
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

Broadleaves

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

POSTEMERGENCE (PARTIAL CONTROL)‡

Grasses

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Prosso	(Panicum miliaceum)
Stinkgrass	(Eragrostis cilianensis)
Quackgrass†	(Agropyron repens)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

Broadleaves

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black (cotyledon stage only)	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pensylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

* Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed.

Black Nightshade partial control is only for use in Tomatoes in California.

**Except California

‡ Partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

DUPONT™ MATRIX® ROTATIONAL CROP GUIDELINES - TOMATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX®. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation Crop	Interval (months)
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

Note: Where drip irrigated tomatoes are grown, rotate only to tomato, potato or field corn as crop injury may result.

Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

RESTRICTIONS

Tomatoes

- Do not apply MATRIX® within 45 days of tomato harvest.
- Do not apply MATRIX® by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4.0 oz. MATRIX® per acre (broadcast basis) on tomatoes during the same growing season.
- Banding applications of MATRIX® should not exceed 4.0 ounces on a broadcast basis in the same growing season.
- Do not apply to tomatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to tomatoes growing in fields.
- Do not apply through any type of irrigation system.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of MATRIX®.

- Cultivation up to 7 days before the postemergence application of MATRIX® may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by MATRIX®.
- To allow MATRIX® to fully control treated weeds, cultivation is not recommended for 7 days after application.
- Optimum timing for cultivation is 7 - 14 days after a postemergence application of MATRIX®.

SPECIFIC WEED PROBLEMS

Quackgrass: For best results, apply MATRIX® postemergence to quackgrass that is 4 to 8" tall. Quackgrass not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

Black Nightshade (Tomatoes): For best results, apply MATRIX® preemergence (prior to weed germination) at 2 - 4 oz per acre followed by a postemergence application at 1 to 2 oz per acre to small actively growing weeds.

Canada Thistle: For best results, apply MATRIX® postemergence to small actively growing Canada thistle. Canada thistle not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

SPRAY ADJUVANTS

Include a spray adjuvant with applications of MATRIX® when applied by itself and postemergence to the weeds. Consult your Ag dealer or applicator, local DuPont fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with MATRIX®, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

Nonionic Surfactant (NIS)

- Apply 0.125 to 0.25% v/v (1 to 2 pt/100 gal of water). The 0.25% v/v rate is preferred under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12. – See the Tank Mixtures section of this label for additional information.

Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

- Apply at 1% volume/volume (1 gal per 100 gal spray solution).
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Blended products which contain both MSO and Silcone are acceptable at labeled rates.

Ammonium Nitrogen Fertilizer

- An ammonium nitrogen fertilizer may be added to the spray mix, in addition to a crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by DuPont product management. Consult separate DuPont technical bulletins for detailed information before using adjuvant types not specified on this label.

Precautions:

1. The use of silicone polymer type surfactants is not suggested as reduced weed control may result.
2. Avoid using crop oil concentrate (COC) or methylated seed oil (MSO) when potatoes are under heat stress (>85 degrees F) as multiple stresses may cause crop injury.

EQUIPMENT-SPRAY VOLUMES

Agitate the spray tank continuously to keep the material in suspension.

Do not use equipment and/or spray volumes that will cause damage from spray by drift onto nontarget sites. Do not make applications when weather conditions are likely to cause spray to drift onto nontarget sites. (See the "Spray Drift Management" section of this label for additional information).

GROUND APPLICATION - POTATOES AND TOMATOES

To ensure optimum spray distribution and thorough coverage, apply DuPont™ MATRIX® with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, "Twinjet", underleaf banding nozzles or flood jet nozzles. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution.

With ground application equipment, use enough water to deliver 10 to 40 gal total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

SPRAYER CLEANUP

Spray equipment or nurse tanks used in chemigation, must be cleaned before MATRIX® is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the 6 steps outlined in the "After Spraying MATRIX® and before Spraying Other Crops" section of this label.

For maximum preemergence activity, prior to application, the bed or soil surface should be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of MATRIX® . Cutting water furrows, or cultivations that mix untreated soil into the treated areas, will also reduce the effectiveness of the herbicide treatment.

For best weed management apply MATRIX® with another suitable residual herbicide registered for that crop. This is recommended for all soil types, but especially so for coarse textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of MATRIX® may be needed to provide extended weed control.

CITRUS FRUIT, STONE FRUIT, TREE NUTS, POME FRUIT, GRAPES

APPLICATION INFORMATION

MATRIX® should be applied as a uniform broadcast application to the orchard or vineyard floor or as a uniform band application directed at the base of the trunk or vine.

For broadcast applications, make a single application of MATRIX® at 4 ounces per acre per year. For improved weed management, MATRIX® should be applied in tank mixture with other registered preemergence herbicides.

When applied as a banded treatment (50% band or less), MATRIX® may be applied twice per year. However, do not apply more than 4 ounces per acre on a broadcast application basis per year. Unless otherwise specified on this label, or in separate published DuPont recommendations, allow a minimum of 30 days between applications.

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacture's spray volume and pressure recommendations for preemergence or postemergence herbicide applications.

Do not apply MATRIX® by air. Use ground application equipment only.

Apply only to crops that have been established for one full growing season and are in good health and vigor.

Best results are obtained when the soil is moist at the time of application, and 1/2 inch of rainfall or sprinkler irrigation occurs within 2 weeks after application. Time the application(s) to take advantage of normal rainfall patterns and cool temperatures. Moisture for activation should occur within 2-3 weeks after application.

MATRIX® may also be applied by certain chemigation methods, such as micro-sprinkler. However, do not apply by overhead, flood, or drip irrigation.

Avoid direct or indirect spray contact with crop foliage or fruit, except undesirable suckers.

Do not use MATRIX® in a spray solution with a pH of below 4.0 or above 8.0, or with spray additives that buffer

the pH to below 4.0 or above 8.0, since degradation of DuPont™ MATRIX® may occur.

CROP GROUP / CROP	PRE-HARVEST INTERVAL (PHI)
Citrus Fruit: Calamondin; Citrus citron; Citrus hybrids (includes chironja, tangelo, tangor); Grapefruit; Kumquat; Lemon; Lime; Mandarin (tangerine); Orange (sweet and sour); Pummelo; Satsuma mandarin	3 days
Pome Fruit: Apple; Crabapple; Loquat; Mayhaw; Pear; Oriental pear; Quince	7 days
Tree Nuts: Almond; Beech nut; Brazil nut; Butternut; Cashew; Chestnut; Chinquapin; Filbert (hazelnut); Hickory nut; Macadamia nut (bush nut); Pecan; Pistachio; Walnut (black and English)	14 days
Stone Fruit: Apricot; Cherry (sweet and tart); Nectarine; Peach; Plum; Plum (Chickasaw); Plum (Damson); Plum (Japanese); Plumcot; Prune (fresh)	14 days
Grapes	14 days

WEEDS CONTROLLED

Susceptible weeds are controlled for 60 to 90 days after application of MATRIX®. Rainfall or irrigation is needed for herbicide activation. Length of control is a function of moisture for activation, soil temperature, soil texture and amount of moisture after application.

When weeds are present at application, include a labeled burn down herbicide, such as glyphosate, paraquat, or glufosinate, with an appropriate adjuvant. MATRIX® will help provide postemergence control of the weeds listed in this label. For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant.

Residual weed control may be reduced when MATRIX® is applied where where heavy crop trash and/or weed residue exists.

Weed control may also be reduced when applications of MATRIX® are made to weeds under stress from drought, excessive water, temperature extremes, disease or low humidity.

PREEMERGENCE WEED CONTROL

Grasses

Barnyardgrass	*Echinochloa crus-galli*
Crabgrass, large	*Digitaria sanguinalis*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Quackgrass	*Agropyron repens*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves

Chamomile, False	*Matricaria maritima*
Dandelion, common (seedling)	*Taraxacum officinale*
Filaree, Redstem	*Erodium cicutarium*
Fleabane, hairy	*Conyza bonariensis*
Groundsel, common	*Senecio vulgaris*
Henbit	*Lamium amplexicaule*
Kochia	*Kochia scoparia*
Mallow, common	*Malva neglecta*
Marestail/horseweed	*Conyza canadensis*
Mustard, Birdsrape	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Puncturevine	*Tribulus terrestris*
Purslane, Common	*Portulaca oleracea*
Spurge, prostrate	*Euphorbia prostrata*
Spurge, spotted	*Euphorbia maculata*

PREEMERGENCE PARTIAL WEED CONTROL

Grasses

Wild Oat	*Avena fatua*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (established)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Nightshade, Black	*Solanum nigrum*
Nightshade, Hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, Prostrate	*Amaranthus blitoides*
Ragweed, Common	*Ambrosia artemisiifolia*
Velvetleaf	*Abutilon theophrasti*

POSTEMERGENCE WEED CONTROL

Grasses (1-2 inches)

Barley, Volunteer	*Hordeum vulgare*
Barnyardgrass	*Echinochloa crus-galli*
Bluegrass, Annual	*Poa annua*
Crabgrass, large (1/2 inch)	*Digitaria sanguinalis*
Foxtail, Bristly	*Setaria verticillata*
Foxtail, Giant	*Setaria faberi*
Foxtail, Green	*Setaria viridis*
Foxtail, Yellow	*Setaria glauca*
Panicum, Fall	*Panicum dichotomislorum*
Wheat, Volunteer	*Triticum aestivum*

Broadleaves (1-3 inches)

Chamomile, False	*Matricaria maritima*
Chickweed, common	*Stellaria media*
Henbit	*Lamium amplexicaule*
Kochia	*Brassica rapa*
Mustard, Black	*Brassica nigra*
Mustard, Wild	*Sinapis arvensis*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Purslane, common	*Portulaca oleracea*
Shepherd's-purse	*Capsella bursa-pastoris*
Wild Radish	*Raphanus raphanistrum*

POSTEMERGENCE PARTIAL WEED CONTROL

Grasses

Johnsongrass, seedling	*Sorghum halepense*
Millet, wild-proso	*Panicum miliaceum*
Oat, wild	*Avena fatua*
Quackgrass	*Agropyron repens*
Stinkgrass	*Eragrostis cilianensis*

Broadleaves/Sedges

Cocklebur	*Xanthium spp.*
Dandelion, common (>6 inches in diameter)	*Taraxacum officinale*
Lambsquarters, common	*Chenopodium album*
Mallow, common	*Malva neglecta*
Nightshade, hairy	*Solanum sarrachoides*
Nutsedge, yellow	*Cyperus esculentus*
Pigweed, prostrate	*Amaranthus blitoides*
Ragweed, common	*Ambrosia artemisiifolia*
Smartweed, Pennsylvania	*Polygonum pensylvanicum*
Thistle, Canada	*Cirsium arvense*
Velvetleaf	*Abutilon theophrasti*

SPECIFIC WEED PROBLEMS

COMMON DANDELION AND MALLOW: DuPont™ MATRIX® provides excellent preemergence control of common dandelion and mallow germinating from seed. In high rainfall areas or where sprinkler irrigation is used, a second application may be needed to extend residual control throughout the growing season.When applications are made postemergence to these weeds, always add a suitable burndown herbicide such as glyphosate or paraquat. Small and medium sized plants (up to 6 inches in diameter) are controlled by postemergence applications of MATRIX® plus a burndown herbicide; however, plants that are larger than 6 inches in diameter may only be suppressed and may require a second application 4 to 6 weeks later.

MARESTAIL AND FLEABANE: Where marestail and fleabane are the target weeds, applications prior to emergence provide best results. This may require a fall application to help prevent fall germinated seedlings from becoming established during the winter. A foliar active herbicide with activity on fleabane and marestail (such as paraquat, glyphosate, and glufosinate) must be tank mixed with MATRIX® for best control and resistance management. After Fall application, a second application in the spring may be required to provide extended weed control into the summer. Where MATRIX® is applied for control of Marestail and Fleabane, it is also recommended that another soil residual herbicide be included as a tank mix or rotational partner to aid in resistance management.

PUNCTUREVINE: For best results, apply early in the spring when you can expect rainfall or overhead irrigation to move MATRIX® into the weed root zone before puncturevine germinates. Puncturevine emerges over a long period of time and late season germinations may not be controlled.

YELLOW NUTSEDGE: MATRIX® provides suppression of yellow nutsedge. To obtain the most effective results, use the highest rate allowed based on the width of your spray band and make two applications. For applications made postemergence to nutsedge, always add the appropriate rate of glyphosate and an effective adjuvant. On soils with high organic matter (6% or higher) always apply postemergence to weeds since preemergence applications are not as effective on these soils.

Application Timing - Yellow Nutsedge

Preemergence plus Early Postemergence: Make the preemergence application when you can expect rainfall or overhead irrigation to move MATRIX® into the nutsedge root zone prior to nutsedge emergence. Make a second application when emerging nutsedge is 2 to 4 inches tall.

Postemergence plus Postemergence: Make first application when emerging nutsedge is 2 to 4 inches tall. Repeat application 14 days later. **Note**: If yellow nutsedge is greater than 6 inches tall at the first application, weed control effectiveness will be greatly reduced.

ANNUAL SUMMER GRASSES (such as Barnyardgrass, Green foxtail, and Crabgrass): Where sprinkler irrigation is used, a fall or early spring application of MATRIX® will not provide season-long control of summer grasses like foxtail, barnyardgrass and crabgrass. For best results, use MATRIX® with a suitable tank-mix herbicide such as oryzalin or pendimethalin. A second application may be needed to provide extended control of summer grasses.

USE PRECAUTIONS

- Direct sprays to minimize spray contact with fruit or foliage.

Diuron Containing Products (Washington and Oregon): On coarse textured soils where crops are grown under sprinkler irrigation, avoid using diuron containing products (such as, Karmex XP or Direx 4L) as a tank-mix partner with MATRIX® between June 1 and September 30 since crop injury may result. MATRIX® tank-mixed with diuron products can be used in the fall (after September 30), or early spring when temperatures are cool to moderate.

CROP ROTATION - Fruit, Nut, and Vine Crops

Do not plant any crops, except field corn, tomatoes, potatoes, and those listed on this label in the "APPLICATION INFORMATION Section", within one year of the last MATRIX® application. Prior to planting, fields to be rotated to the above crops should have a thorough soil mixing - for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay should be completed prior to planting any other desired crops. The results of this bioassay may require the crop rotation interval to be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip should cross the entire field including knolls and low areas.

MICRO-SPRINKLER CHEMIGATION - Fruit, Nut, and Vine Crops

MATRIX® may be applied via micro-sprinkler chemigation. The chemigation system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional (normally closed) solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump

motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide(s) and capable of being fitted with a system interlock. Do not apply DuPont™ MATRIX® through any other chemigation equipment.

USE PRECAUTIONS FOR CHEMIGATION - Fruit, Nut, and Vine Crops

- Do not connect an irrigation system used for MATRIX® Herbicide application to a public water system.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the recommended rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.
- Continuous agitation in the mix tank is needed to keep the product from settling. If settling does occur, thoroughly re-agitate the tank mixture before using.

ADDITIONAL USE INFORMATION - ALL CROPS AND USES

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of MATRIX® herbicide.
3. Continue agitation until the MATRIX® herbicide is fully dispersed, at least 5 minutes.
4. Once the MATRIX® herbicide is fully dispersed, maintain agitation and continue filling tank with water. MATRIX® herbicide should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the required of spray adjuvant (if needed). Always add the spray adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply MATRIX® herbicide spray mixture within 48 hours of mixing to avoid product degradation.
8. If MATRIX® and a tank mix partner are to be applied in multiple loads, pre-slurry the MATRIX® in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the MATRIX®.

Do not use MATRIX® in a spray solution, or with spray additives that reduce the pH to below 4.0, or MATRIX® degradation may occur.

If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide.

SPRAYER CLEANUP

It is important that spray equipment is clean and free of previous pesticide deposits before using MATRIX® and then properly cleaned out following application. Clean all application equipment before applying MATRIX®. Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of MATRIX®, thoroughly clean all mixing and spray equipment to avoid subsequent crop injury.

Note :

- When cleaning spray equipment before applying MATRIX®, read and follow label directions for proper rinsate disposal of the product previously sprayed.

When spraying or mixing equipment will be used over an extended period to apply multiple loads of MATRIX®, partially fill the tank with fresh water at the end of each day of spraying, and flush the boom and hoses, before allowing to sit overnight.

At the End of the Day

When multiple loads of MATRIX® herbicide are applied, it is recommended that during periods at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses be flushed. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

After Spraying MATRIX® and before Spraying Other Crops

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia* (contains at least 3% active ingredient) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing ammonia* and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an alternate-strength ammonia solution or a DuPont-approved spray equipment cleaner can be used in the cleanup procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or DuPont representative for a listing of approved spray equipment cleaners.

NOTES:

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When DuPont™ MATRIX® is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all preapplication cleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of MATRIX® and applications of other pesticides to MATRIX®-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to MATRIX® to further reduce the chance of crop injury.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR. Where states have more stringent regulations, they should be followed.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

CONTROLLING DROPLET SIZE - AIRCRAFT

- Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length - the boom length should not exceed 3/4 of the wing or rotor length--longer booms increase drift potential.
- Application Height - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Set the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

DuPont™ MATRIX® is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For Preemergence weed control, rainfall or sprinkler irrigation is needed to move MATRIX® into the soil. Weeds will generally not emerge from Preemergence applications. In some cases, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

MATRIX® provides the best control of weeds in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not provide satisfactory control. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

The herbicidal action of MATRIX® may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to MATRIX®.

Postemergence Weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow MATRIX® to be sufficiently absorbed by weed foliage (generally MATRIX® is rainfast in 4 hours).

RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in the field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

Naturally occurring weed biotypes that are resistant to "Amber" herbicide, DuPont™ ALLY® herbicide, DuPont™ GLEAN® FC herbicide, DuPont™ EXPRESS® herbicide, DuPont™ HARMONY® EXTRA herbicide, or DuPont™ FINESSE® herbicide will also be resistant to MATRIX®.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

PRECAUTIONS

- Potato and tomato varieties may differ in their response to various herbicides. DuPont recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use to a small area.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes and tomatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- If sprinklers are used for frost protection, delay the application of MATRIX® until stress from environmental conditions have passed.
- Avoid spray drift to any adjacent crops or desirable plants as injury may occur.
- Crop injury may occur following an application of MATRIX® if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Draining or flushing equipment on or near desirable trees or other plants, or in areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots may injure these plants. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.
- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- For best results, maintain spray tank solution at pH 5 to 7.
- Do not apply to frozen or snow covered soil. Crop injury may occur from applications made to poorly drained soils.
- If the selected companion herbicide has a ground or surface water advisory, consider the advisory when using the companion herbicide.

- Tank mixing DuPont™ MATRIX® with Organophosphate insecticides in tomatoes may result in crop injury.

RESTRICTIONS

- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:

- Do not apply, drain, or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.
- Do not contaminate any body of water, including irrigation water that may be used on other crops.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage crops other than potatoes or tomatoes.

- Do not apply using Air Assisted (Air Blast) field crop sprayers.

STORAGE AND DISPOSAL

Storage: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

Product Disposal: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities. **For Fiber Drums With Liners:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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