

5716 –PROTECTIVE MEASURES

Table of Contents

.01	Purpose
.02	Objective
.03	Authority
.04	Responsibility
.05	Definitions (Reserved)
.06	Policy
.1	<u>Determining the Need Protection</u>
.2	<u>Coordination</u>
.3	<u>Safety and Pesticides</u>
.4	<u>Direct Control of Animals</u>
.41	Seed Treatment (Reserved)
.42	Seedling Treatment
.43	Baiting
A.	Deer Mice (Reserved)
B.	Meadow Mice
C.	Chipmunks and Golden Mantled Ground Squirrels
D.	Rabbits, Hares, and Mountain Beaver
E.	Pocket Gophers
F.	Porcupines
.44	Hunting
A.	Game Animals
B.	Non-game Animals
.45	Mechanical Protection
A.	Fencing
B.	Screening
.5	<u>Animal Habitat Manipulation</u>

5716 – PROTECTIVE MEASURES

.01 Purpose. This section provides standards and guidelines for protecting seedling and sapling size stands from animals, insects, and disease.

.02 Objectives. Protective measures are designed to reduce: the destruction of naturally or artificially sown seed; the destruction of or damage to trees; and damage to the forest site, such as soil compaction resulting from overgrazing.

.03 Authority. (See 5700.03)

.04 Responsibility. (See 5700.04)

.05 Definitions. (Reserved)

.06 Policy. (See 5700.06)

5716 – PROTECTIVE MEASURES

.1 Determining the Need for Protection. Damage to trees by insects, disease, or animals that is serious enough to affect survival or growth is recorded during the regeneration stocking survey. If damage is occurring, the examiner determines the percent of plots affected and the potential effectiveness of alternative treatments as described in 5705.53. The procedure does not apply, however, to surveys made prior to the establishment of conifers. Judgment is then the only basis for determining the need. It is usually assumed that there is a need to protect artificially sown seed.

5716 – PROTECTIVE MEASURES

.2 Coordination. Protection measures involving pesticides, burning, or land clearing are closely coordinated with technical Bureau experts, other Federal agencies, state agencies, organized interest groups, and other interested parties such as adjacent landowners.

5716 – PROTECTIVE MEASURES

.3 Safety and Pesticides. Chemicals used to control forest pests are extremely dangerous and special measures are necessary to insure the safety of users. Purchase needed pesticides from the Bureau of Sports Fisheries and wildlife. Follow their instructions for safe use, usually enclosed with the order.

.4 Direct Control of Animals.

.41 Seed Treatment. (Reserved)

.42 Seedling Treatments. Treating seedlings with a repellent can be effective stop-gap protection from rabbits, deer, and mice. Effectiveness varies, however, with the animal species involved, individual animals, plant species being protected, geographic location, abundance of other animal food and time of year. Repellents may give good protection under one set of conditions and little or none under another. Protection is limited to treated portions of the seedling; new growth is not protected.

.43 Baiting.

A. Deer Mice (*Peromyscus*). (Reserved)

B. Meadow Mice (*Microtus*). Reforestation of grassy areas may be hampered by high populations of meadow mice. Place one-half teaspoonful quantities of one percent zinc phosphide treated wheat or oats directly in burrows and runways. Approximately two pounds per acre is usually adequate to control high populations in dense vegetation. The bait should be applied in late summer or early fall. Succeeding treatments are not recommended within six months of the initial kill.

5716 – PROTECTIVE MEASURES

- C. Chipmunks and Golden Mantled Ground Squirrels. Endrin tree seed treatments on sugar and ponderosa pine are usually ineffective against these rodents. Scatter teaspoonful amounts of 1-12 strychnine-treated oats in protected areas along runways and burrow entrances. Bait in late summer or early fall prior to hibernation for golden mantled ground squirrels. Chipmunks may be baited in the spring to protect emerging seedlings and in the fall to protect seed.
- D. Rabbits, Hares, and Mountain Beaver. Use diced apples dusted with strychnine at the rate of 1 oz. strychnine per 16 pounds of apple. Ten-inch sections of sword fern fronds dusted with strychnine alkaloid are recommended for baiting mountain beaver in winter. Place bait in rabbit trails and feeding areas and well back into entrances at active mountain beaver burrows. Do not bait holes where soil and debris is pushed out as the bait is likely to be buried. For mountain beaver, apply apple baits in spring, summer and fall and sword fern fronds in winter. For rabbits and hares, bait with apples during late fall and winter when succulent plants are not available. For optimum control of rabbits and hares, expose untreated apples for one to two weeks before treated apples are placed.
- E. Pocket Gophers. Locate the main runway by probing along a lateral runway. (Mounds are located at the end of lateral runways. Small, convex, earth plugs also mark the main runway. These are made when the gophers close their burrows after returning from the surface.) Enlarge a probe hole in the main runway in which to place the bait. Avoid making a deep hole in the bottom of the burrow. Place a teaspoonful of 1:10 strychnine-treated oats into the main burrow. Cover probe holes with clods, rocks, etc., to prevent light from entering the burrow system.
- F. Porcupines. Use Strychnine-treated salt blocks attached to durable stations such as the one described in Technical Note 5700-P712b, dated April 5, 1958.
- .44 Hunting. Properly organized hunting is a useful animal control tool for such animals as deer, elk, and porcupine.
- A. Game Animals. State Game departments are responsible for managing and regulating game animals. Emergency or special hunts may be arranged for in areas where excessive damage is sustained.

5716 – PROTECTIVE MEASURES

B. Non-game Animals. Non-game animals may be hunted without direct control of State game departments. It is usually wise, however, to coordinate hunts of this nature with law enforcement officers. Be certain that the animal to be hunted is classified by the State as a non-game animal and is not otherwise protected.

.45 Mechanical Protection. Techniques are available to provide mechanical protection to both seeded and planted trees by preventing access to entire plantations or individual trees. These techniques have limited application and are usually quite expensive. They should usually be limited to areas where severe damage has occurred or is anticipated.

A. Fencing. Fencing involves the use of woven wire or nylon net materials to exclude big game or livestock from entire plantations.

B. Screening. Individual trees or seedspots can be protected from some animals by wire screens. Screens may also reduce light intensity on the protected spot.

5716 – PROTECTIVE MEASURES

.5 Animal Habitat Manipulation. Reforestation-inhabiting animals, such as rabbits and mountain beaver, are often dependent upon heavy concentrations of slash and vegetation. Only by destroying this favorable habitat can effective and lasting control be achieved. Treatments described in 5710, such as burning, clearing, and spraying in combinations, can be used.