

Guidebook to the Seeds of Native and Non-Native Grasses, Forbs and Shrubs of the Great Basin

Including portions of Oregon, Washington,
Idaho, Utah, Nevada and California

By Scott Lambert
Regional Seed Coordinator

United States Department of the Interior
Bureau of Land Management
Idaho State Office
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INTRODUCTION

This seed and plant guide contains descriptions of almost 250 native and non-native (introduced) plants and seeds used by the U. S. Department of Interior, Bureau of Land Management (BLM) in the Great Basin region of Oregon-Washington, Idaho, Utah, Nevada, and California. It is a partial list of the grasses, forbs (wildflowers and herbaceous legumes) and shrubs available from commercial seed vendors in very limited to good quantities. The plants described are mostly considered to be plants found in aridland sites (less than 12 inches mean annual rainfall). The target audience includes natural resource specialists and other technical specialists who utilize seeds in BLM projects. The guidebook may be useful to others interested in seeds of Great Basin plants as well.

In addition to the plant descriptions section, the appendices include more detailed information on topics such as seeding depth, effective annual precipitation for Great Basin plants, seed characteristics, the minimum pure live seed (PLS) rate for BLM, native plant species by Ecoregion (EPA, Level III), commercial sources for seed, and a list of publications on plants and seeds.

This guide does not include herbaceous wetland/riparian plants such as *Carex*, *Juncus*, and *Scirpus* species, refer to “Wetland Plants of Oregon and Washington” by Guard, B.J. (1995), “Field Guide to Intermountain Rushes” by Hurd, E.G., S. Goodrich, and Shaw, N.L. (1994), “Field Guide to Intermountain Sedges” by Hurd, E.G. and others (1998), or other publications for information. Wherever possible, information is included on plant ecology, plant propagation, seeds per pound, seeding rates for mechanical drilling, soils, mean annual precipitation requirement, and commonly used cultivars (cultivated varieties).

BLM’s goal is to utilize seed of native plants, native cultivars and source-identified seed wherever possible for seedings or reestablishing plants in natural areas, wildlife habitat, wilderness study areas, or other sites with intact native plant communities. Availability and reasonable cost of seed of native plants are also important criteria for determining where, when and how much seed will be used in a project. Native species are useful for a variety of land management goals. Some examples are reduction of soil erosion on roads or other highly disturbed sites, gene pool preservation, enhance aridland and wetland functions and values, wildlife food and cover, recreation site rehabilitation, and watershed restoration.

Non-native plants/seed may be useful for emergency soil stabilization and weed control after wildfires, floods or other natural disasters. Other examples of use for non-native plants/seed include the initial seeding or planting on a highly disturbed site with few native plants or where native seed stock is not available and as forage for specific wildlife species or domestic livestock. Where native seeds are unavailable or no longer appropriate for the area, non-native seeds are utilized. In some cases, the seed of non-native plants may be used as an intermediary solution to restoring the desired native plant community.

Seed and plants of many native species may not be readily available from commercial sources. Contract growing or wildland seed collection of source identified material may be an option for some projects with specific goals such as ecosystem restoration. Contract growing or seed collection may take more time and cost more than procuring seed from a commercial grower. Native cultivars and varieties may not originate in the ecoregion or land resource area they will be planted. Determine what is acceptable for your site or area. Remember seed and plant quality standards are very important guidelines when using native or non-native plant materials.

Seeding rates given for Great Basin plants are the recommended single species drilled seeding rates. Aerial or broadcast seeding rates are usually 1.5 to two times the drilled seeding rate. BLM applies seed based on the pure live seed (PLS) seed rate, lbs. per acre. PLS is the percent pure seed multiplied by the percent of pure seed germination rate for the individual seed lot. BLM procures seed by individual seed lots; we do not accept pre-mixed seed mixes. Seed mixtures consist of several to many different species or types of seed (grasses, forbs, and shrubs). Calculate the seed mixture rate (PLS lbs/acre) based on the percent for each species/type desired in the seed mix.

All seed, native and non-native, procured and used by BLM will meet or exceed Seed Certification standards for the species or cultivar. The seed standards for each species used by BLM will meet or exceed minimum purity, minimum germination, no noxious weed seed, and less than 2.0% other crop seed.

KEY TO PLANT ENTRIES

A bracketed number after a plant name, such as [#1], means that a drawing of the plant appears in the document. A total of 61 drawings are included. A complete list of the drawings is found in the Appendices. The drawings are by Jeanne R. Janish and are reprinted by permission from “Vascular Plants of the Pacific Northwest”, University of Washington Press, Seattle, Washington, 1977.

An (I) after a plant name means the plant is Introduced (I) to western North America and is considered to be a non-native species.

An (N) after a plant name means the plant is Native (N) to a specified geographic area in western North America prior to the year 1800.