United States Department of Agriculture

A Conservation Plant Released by the Natural Resources Conservation Service
Plant Materials Center, Pullman, Washington

White Pass Germplasm

blue wildrye

Elymus glaucus Buckl.

The NRCS Plant Materials Center in Pullman, WA released White Pass Germplasm as a selected class blue wildrye (*Elymus glaucus*) in 2010.

Figure 1. Seed heads of White Pass Germplasm blue wildrye in the field at the Pullman Plant Materials Center.

Description

White Pass Germplasm blue wildrye is a perennial cool- season native bunchgrass that typically persists less than 5 years. It responds to disturbances and is frequently abundant on cutover areas, burns, and road shoulders. Plant height ranges between 36-52 inches with numerous stiff, upright, and smooth stems. Leaves are wide, drooping, and smooth. Leaf color varies from green to blue green; mature basal leaves turn crimson. Auricles are purple and non-clasping. Seed heads are 4-7 inches long with a ½ - ¾ inch straight awn and crimson in color. Seeds germinate quickly, maturing within one year. Plants have an extensive, fibrous root system that is relatively shallow. Frosts induces dormancy in White Pass Germplasm.

Source

Seed was originally collected in 1994 from native vegetation on the east facing slopes of White Pass Germplasm in Yakima County, WA (elevation 4440 ft.), as accession 903968 by forest service employee Duward Massey. Compared in a common garden study with 225 other ecotypes of blue wildrye, White Pass Germplasm was selected for rapid germination, basal growth, as well as high seed and biomass production.

Conservation Uses

White Pass Germplasm blue wildrye is primarily used for critical area stabilization plantings such as vegetating abandoned forest roads. It is also excellent for reseeding burned or disturbed areas in oak woodland or forests as it does not interfere with tree regeneration. Its well-developed root system allows for excellent erosion control. Plants are tolerant of fire, burning quickly with little downward transfer of heat. White Pass Germplasm is also useful for upland wildlife habitat plantings. Many ungulates readily utilize it during the summer months but blue wildrye may be too coarse and stemmy later in the season.

Area of Adaptation and Use

White Pass Germplasm is adapted to USDA Plant Hardiness Zones 3-5 (January 1990) with 16-60 inches of mean annual precipitation at elevations of 2000-7000 feet. Blue wildrye is found in prairies, foothills, and mountains of several western states and Canadian provinces. It occurs in much of Washington except for those areas that receive less than 14-inches of annual precipitation. Blue wildrye grows on well-drained deep soils to skeletal rocky soils. It commonly occurs in conifer-forested areas of the west and is tolerant of partial shading, however, White Pass Germplasm is best adapted to the east slope of the Cascade Range and adjacent foothills.

Establishment and Management for Conservation Plantings
Blue wildrye is short-lived and needs to be seeded in a mix with longer-lived species such as bluebunch wheatgrass and/or Idaho fescue. A mix should use no more than 50% blue wildrye. Mixtures with blue wildrye are seeded in the spring. The seedbed needs to be firm to ensure adequate establishment. There are approximately 130,000 seeds per pound. Drills should place the seed no more than ½ inch deep and each drill row should apply 10-15 blue wildrye seeds per foot of row. The same row should have 15-30 seeds of the longer-lived species. Broadcast seedings need to apply 5-7 PLS pounds per acre of seed. Broadcast seedings may need to be rolled or raked after seeding to improve seed-to-soil contact.

Blue wildrye emerges rapidly and makes most of its growth before the onset of summer drought. During the establishment year, it is vital that weeds are controlled, and White Pass Germplasm should not be grazed by livestock to ensure a strong stand. Upland bird habitat plantings must not be mowed during the nesting season. Burning decadent growth is not recommended at this time as it is not known if this will adversely affect stand survival.

Wild oats can be extremely devastating to the establishment of White Pass Germplasm; fields should be relatively free from this weed for at least two seasons prior to planting. Additionally, cheatgrass and rattail fescue seed are similar in size to blue wildrye seed, making it difficult to remove in the cleaning process. Selection of fields with histories of low cheatgrass and/or rattail fescue incidence is necessary.

Figure 2. Mature stand of White Pass blue wildrye. Pullman, WA.

Ecological Considerations
Unlike other blue wildrye varieties, White Pass Germplasm has a low incidence of rust when epidemics occur. This plant is a native species and has no known negative impact on ecosystem processes or other native species. There is little probability of it becoming invasive. There are no known negative impacts from White Pass Germplasm on wildlife or domestic animals.

Seed and Plant Production
Propagation of blue wildrye is by seed. White Pass Germplasm needs to be drill seeded into a clean seedbed using a minimum of 20 seeds per linear foot. Seeding should take place in the spring for dryland plantings. Irrigated plantings can be seeded in the spring, mid- to late- summer, and early fall. Seed is typically ripe by late-July. Harvest will require swathing and combining.

Availability
For conservation use: White Pass Germplasm is a Selected Class release. The USDA Pullman Plant Materials Center will maintain Breeder seed until 2035. Foundation Seed will be maintained and distributed by the Washington State Crop Improvement Association. There will be no registered seed class. Certified Seed class will be recognized.

Citation
Release Brochure for White Pass Germplasm blue wildrye (*Elymus glaucus*). 2022. USDA-Natural Resources Conservation Service, Pullman Plant Materials Center. Pullman, WA.

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