



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

Willamette Germplasm tufted hairgrass

Deschampsia cespitosa (L.) P. Beauv.

A Conservation Plant Release by USDA NRCS Corvallis Plant Materials Center, Corvallis, Oregon



Willamette Germplasm tufted hairgrass. Photo by Dale Darris.

Willamette Germplasm is a selected class pre-variety of tufted hairgrass (*Deschampsia cespitosa*) released in 2002 by the USDA Natural Resources Conservation Service in cooperation with the Oregon Agricultural Experiment Station. It is intended for conservation use at lower elevations in western Oregon and western Washington.

Description

Willamette Germplasm is a long-lived, medium textured, native perennial bunchgrass. The foliage is mostly basal and the erect flowering stems (culms) are 3 to 5 ft tall. It is taller compared to certain other populations evaluated. The culms terminate in a loose, open seedhead (panicle) that is 4 to 10 inches long with nodding lower branches. This selection flowers from late May to early June and produces cross-pollinated seed that matures by early July.

Source

Willamette Germplasm (9019737, PVGOR2) originates from seed collected in 1979 from a riparian zone along

the Calapooya River, two miles west of Tangent in Linn Co., Oregon (123° 9.1' W long., 44° 32.4' N lat., elev. 240 ft). It was not bred or hybridized. However, the population ranked high in plant vigor, clipping response, and stem height compared to 49 other sources in a common garden study at the Corvallis Plant Materials Center.

Conservation Uses

Suggested uses for Willamette Germplasm include riparian revegetation, shoreline, waterway and streambank erosion control, wildlife cover and herbage, and restoration of seasonal freshwater wetlands. While in some regions the forage value of the species is considered fair to good for livestock prior to maturity, the palatability and nutritional levels for this selection have not been determined. In western Oregon and western Washington, yields of 1.5 to 8.5 tons dry matter per acre have been reported.

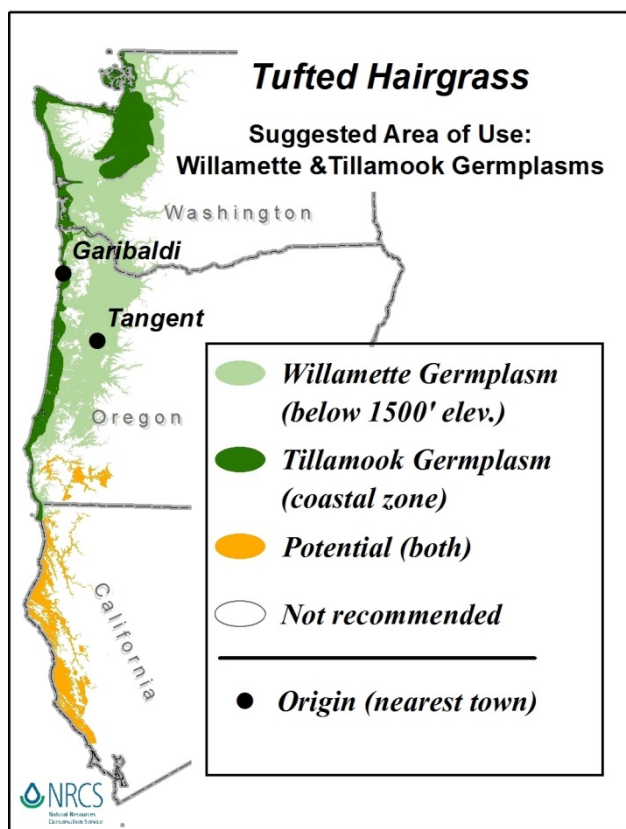
Area of Adaptation and Use

Willamette Germplasm does best on somewhat well- to poorly-drained, medium- to fine-textured soils that are moderately acid to neutral. Ideal habitat includes seasonally wet prairies, annual floodplains, and the shorelines of streams and ponds where there is full sun to partial shade. It also grows well on uplands where the rainfall exceeds 35 inches, but will not survive wet sites with more than a few inches of continuous inundation during winter and spring. Area of adaptation and suggested use for Willamette Germplasm is the Willamette Valley, Cascade and Olympic Mountains, Coast Range, and Puget lowlands below 1,500 ft elevation, with the exception of the immediate Pacific coastline (see map below). Freshwater and slightly brackish marshes as well as other slightly saline, moist sites near the coast and Puget Sound may be better suited to Tillamook Germplasm tufted hairgrass. Its natural origin is a high coastal marsh near Garibaldi, Oregon. For more information on this Corvallis PMC release, please see the brochure for Tillamook Germplasm.

Establishment and Management for Conservation Plantings

Willamette Germplasm has little or no seed dormancy. Therefore, planting can occur in the spring or fall without pretreatment of the seed. The suggested drilled seeding rate is 1.5 to 3 lb/acre for most conservation uses. Double the rate if broadcasted. When planted in mixes with forbs and other grasses, sow at a rate of 1/10 to 1/2 lb/acre. At higher rates tufted hairgrass may dominate the stand. There are 1.4 to 1.8 million seeds per pound, so for every pound of seed sown, 30 to 40 seeds are applied per square

foot. Because of the small seed size and improved germination with sunlight, plant shallow (1/8 to 1/4 inch deep) or surface sow in combination with a light covering of mulch or use of a roller/cultipacker. Starter fertilizers are usually not recommended for reclamation or restoration plantings where soils are well developed or substantial weed competition anticipated. Willamette Germplasm can be sensitive to high intensity summer fires and close mowing. Guidelines for hay and pasture management have not been determined but should follow general principles for perennial cool season grasses west of the Cascades.



Suggested area of use for Willamette Germplasm and Tillamook Germplasm tufted hairgrasses. Map by Ian Reid.

Ecological Considerations

Tufted hairgrass can be subject to diseases such as ergot, rusts, head smut, blind seed, and leaf spots as well as insects like aphids, billbugs and leafhoppers. Of these pests, leaf rust is most noticeable in some years. The occurrence of other diseases and insects on Willamette Germplasm was low during the evaluation period. It is not considered to be weedy within the suggested area of use, but seed can remain viable in the soil for several years. There is no reported toxicity to livestock.

Seed and Plant Production

When Willamette Germplasm tufted hairgrass is grown for seed west of the Cascade Mountains, it is best to fall

sow since spring seeding usually requires irrigation. Soils can be well-drained to poorly-drained. Sow at a rate of 1 to 2 pounds per acre. Use of wide row spacings (24 to 36 inches) improves seed yields of this germplasm and allows for optional cultivation for weed control. Pre-emergent herbicides are available for weed control in established stands, but not for new stands. Broadleaf control herbicides can be applied to both new and existing stands. Always read and follow label instructions. Established fields should be fertilized annually at the rate of 100-125 lb N/acre with at least 50 lb of the total amount applied in February. Harvest the seed conventionally by direct combining or windrowing then combining two weeks later. Remove post-harvest residue by baling or flail chopping into a trailing wagon. The remaining stubble should be a height of 3 to 5 inches to avoid damage to elevated crowns of older plants. Awns and hairs should be detached from the seed during processing in order to reduce volume and improve flow through seeding equipment. Seed yields have averaged 100 lb/acre without irrigation.

Availability

For conservation use: Certified (preferred) and non-certified seed of Willamette Germplasm tufted hairgrass is periodically available from a limited number of specialized growers and vendors.

For seed or plant increase: G2 or G3 seed of Willamette Germplasm tufted hairgrass is available to commercial growers from the NRCS Corvallis PMC.

For more information, contact:

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Corvallis, OR 97330
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<http://plant-materials.nrcs.usda.gov/orpmc/>

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

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