Willamette Valley Germplasm

Roemer’s fescue

Festuca roemeri (Pavlick) E.B. Alexeev

Willamette Valley Germplasm is a selected class pre-
variety of Roemer’s fescue released in 2012 by the USDA
Natural Resources Conservation Service and the Institute
for Applied Ecology, Corvallis, Oregon. It is one of five
related germplasm releases, each targeting an area of the
Pacific Northwest within the natural range of the species.

Description
Willamette Valley Germplasm Roemer’s fescue is a
native cool season, perennial bunchgrass with mostly
basal foliage that is fine-textured and dense. Variation
among plants is high. Leaf color varies from shades of
green to pale blue. The stiff, erect, smooth stems
terminate in an open seedhead and grow 28-45 inches tall
on average. They range in color from yellow-green to
purple or red, turning mostly straw colored at maturity.
The basal width of the plant is 4-7 inches. Plants rarely
flower until mid to late May of the second full growing
season. Seed matures between mid June and early July in
western Oregon.

Source
Willamette Valley Germplasm was collected from nine
naturally occurring stands (populations) of Roemer’s
fescue growing within the Willamette Valley ecoregion.

The collection sites were from 360 to 1100 ft above sea
level in an area where the average annual precipitation is
40 to 50 in. Results from a common garden study
revealed patterns of genetic variation for growth, fitness,
and rate of development among 47 populations from the
Pacific Northwest that related to elevation, latitude, and
certain climatic features of the seed source. Roemer’s
fescue variation clustered into seed transfer zones
_corresponding to EPA Level III or Level IV ecoregions.
In order to incorporate substantial genetic diversity, nine
of 17 populations collected within the Willamette Valley
seed transfer zone were selected to represent the
Willamette Valley Germplasm. Populations were
eliminated for being too high in elevation or having
unusual adaptation or appearance, low seed yield, or poor
survival. Random mating among the nine populations was
promoted in a crossing block of G1 plants in order to
form a genetically diverse polycross and potentially
reduce or eliminate any inbreeding depression.

Conservation Uses
Recommended uses for Willamette Valley Germplasm
include restoration of upland prairies, grassy balds, oak
savanna, and similar native plant communities, as well as
wildlife habitat improvement. This includes food or cover
for various song and game birds, small mammals, and
beneficial insects. Forage value and palatability for
wildlife and livestock are not well documented but may
be similar to Idaho fescue. Idaho fescue is rated as fair to
good forage. Roemer’s fescue is drought tolerant and its
non-aggressive growth habit suggests compatibility with
forbs. After further evaluation, other uses may include
general revegetation and erosion control of disturbed sites
and roadsides where a fine textured perennial grass is
desired, low input turf, and cover crop for vineyards or
young orchards.

Area of Adaptation and Use
Willamette Valley Germplasm Roemer’s fescue is
primarily recommended for use within the Willamette
Valley ecoregion below an elevation of 2500 feet (see
map). Movement of the germplasm within this seed
transfer zone should pose minimal risk of maladaptation.
Pending further testing, use may extend to adjacent
ecoregions for select purposes other than restoration.

This germplasm is likely to grow best in full sun and part
shade near trees on moderately well to well-drained,
medium to fine-textured soils that are moderately acid to
slightly basic. Although Roemer’s fescue is considered
drought tolerant and has extensive roots, it favors more
mesic rather than xeric habitats within a site. While the
species is known for tolerance to serpentine soils,
moderate to low fertility conditions, and wildfire, the
specific adaptation of Willamette Valley Germplasm to such extremes remains to be tested.

**Establishment and Management for Conservation Plantings**

Seeds typically germinate without treatment indicating dormancy is low. However, germination is quicker and more uniform after 14 days of cold (34-38°F), moist stratification (moist chilling). There are approximately 500,000 seeds per pound with hulls intact. A seeding rate of 1 pound per acre results in about 12 seeds per square foot. Sown alone, recommended rates for revegetation vary from 4 to 20 pure live seed (PLS) pounds per acre depending on goals, method of sowing, and site conditions. Fertilization encourages weed competition and should be avoided the first four to six months.

If managed for forage production, a rotational system of moderate grazing similar to that used for Idaho fescue is suggested. Idaho fescue is susceptible to overgrazing. In settings where utilization is low, prescribed burning or mowing every few years are possible tools in maintaining stand vigor and stimulating reproductive capacity. For cover or low input turf, Roemer’s fescue tolerates being mowed two to three times a year at moderate heights (2-3 inches) with or without fertilization.

**Ecological Considerations**

Willamette Valley Germplasm is not considered weedy within the intended area of use. It is a known host of rust diseases (*Puccinea* spp.) which may warrant control in some years when cultivated for seed. Trace amounts of ergot (*Claviceps purpurea*) have been observed in similar populations of Roemer’s fescue. The same rusts and ergot commonly infect other grasses, so their presence on this germplasm, if detected, is not deemed a special risk. In the unlikely event of ergot becoming abundant, special precautions should be considered to avoid toxicity to grazing animals (such as temporary livestock exclusion).

**Seed and Plant Production**

For seed increase the suggested seeding rate is 2 to 4 lbs per acre. Fall sowing is preferred since spring plantings may require irrigation in summer dry areas. Suggested row spacing is 12 to 14 inches. Certified seed production in Oregon requires a minimum isolation distance of 900 feet between Roemer’s fescue populations, and allows no more than 1% contamination by red fescue seed as determined by an ammonium hydroxide root florescence test. Depending on the state, one or more herbicides may be labeled for grass weed control in established stands, and others are routinely labeled for post-emergence broadleaf weed control. Fungicides may be labeled for control of rust diseases. Always read and follow label directions. For established stands in western Oregon, apply 50 to 60 lbs of nitrogen per acre annually in February or March. Conventional harvest methods of windrowing and combining after the seed is dry work well, as do flail-vac seed strippers. Post-harvest residue management should include the removal of most crop straw and decadent foliage by baling or flail chopping with a forage harvester. Remaining stubble and foliage should 1 ½ to 2 ½ inches tall.

**Availability**

*For conservation use:* G3 and G4 seed should be available from specialized growers by late 2013.

*For seed or plant increase:* The NRCS Corvallis Plant Materials Center maintains certified G2 and G3 seed.

**For more information, contact:**

Corvallis Plant Materials Center
3415 NE Granger Ave.
Corvallis, Oregon 97330
Phone: 541-757-4812

**Citation**

USDA Natural Resources Conservation Service. 2012. Release brochure for Willamette Valley Germplasm Roemer’s fescue (*Festuca roemeri*). USDA NRCS Corvallis Plant Materials Center, Corvallis, OR.

For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District, and visit the PLANTS Web site or the Plant Materials Program Web site.

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