



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

Anatone Selected Class Germplasm Bluebunch Wheatgrass

Pseudoroegneria spicata (Pursh) A. Löve

A Conservation Plant Release by USDA NRCS Aberdeen Plant Materials Center, Aberdeen, Idaho



Anatone Germplasm bluebunch wheatgrass is a Pre-Varietal Selected Class conservation plant released in 2003.

Anatone Selected Class Germplasm bluebunch wheatgrass was selected from seed originating near Anatone, Washington by the Forest Service Shrub Sciences Laboratory. It was released by the Forest Service Shrub Science Laboratory, Bureau of Land Management, Aberdeen Plant Materials Center, Idaho-Utah Agricultural Experiment Stations, Agricultural Research Service and the Utah Division of Wildlife Resources in 2003.

Anatone germplasm establishes rapidly and has the ability to survive and thrive under dry conditions at or above 10 inches rainfall. It is intended for use on valley and foothill rangelands for re-establishment of native plant communities, vegetative firebreaks, and critical area stabilization and reclamation purposes.

Description

Bluebunch wheatgrass is a perennial cold-season native bunchgrass growing to 18 to 40 inches tall. The abundant leaves are green to blue in color. Spikes are generally loose, open with spikelets about the same length as the

rachis internodes at maturity. The lemma awns are prominent and divergent.

Source

Anatone Germplasm is a selection from a native plant collection made in Asotin County, Washington in 1988 by the USDA Forest Service, Rocky Mountain Research Station, Provo, Utah. The original collection was made in a sagebrush/perennial grass community at an elevation of 3,200 ft. Other associated plants at the original collection site include Idaho fescue, Sandberg bluegrass, and mountain big sagebrush.

Anatone Germplasm was selected by the Rocky Mountain Research Station from a comparison of approximately 80 collections of bluebunch and Snake River wheatgrass, including 'Goldar', 'Whitmar' and 'Secar', in arid conditions. Plants were compared for stand, vigor, seedling establishment success and adaptability to arid sites. Additionally, Anatone was compared against nearly 50 other populations for cold temperature germination rates, seed production and seed quality.

Conservation Uses

Anatone can be used for native hay production and will make nutritious feed, but is better suited to grazing use. Bluebunch wheatgrass is palatable to all classes of livestock and wildlife. It is preferred forage for cattle and horses year-round, but it is considered coarse in summer. It is preferred forage for sheep, elk, deer, and antelope in spring. It is considered desired forage for elk in summer. It is desirable forage for sheep in summer, desirable feed for sheep, elk, deer, and antelope in fall and desirable forage for sheep, elk, and deer in winter. In spring, the protein levels can be as high as 20 percent decreasing to about 4 percent protein as the forage matures and cures. Digestible carbohydrates remain about 45 percent throughout the active growth period.

Bluebunch wheatgrass is very drought resistant, persistent and adapted to stabilization of disturbed soils. It is very compatible with slower developing native species, such as thickspike wheatgrass, western wheatgrass, and needlegrass species. It does not compete well with aggressive introduced grasses. Its drought tolerance, combined with extensive root systems and good seedling vigor, make this species ideal for reclamation in areas receiving 10 to 20 inches annual precipitation.

Area of Adaptation and Use

Anatone is adapted to the Northwest and Intermountain regions of the United States where annual precipitation averages at least 10 inches. It prefers light to medium-textured well drained soils. Anatone can be planted in big sagebrush communities as well as on mountain slopes with antelope bitterbrush, mountain big sagebrush and Idaho fescue. It can also survive in shallow rocky soils with Wyoming big sagebrush.

Establishment and Management for Conservation Plantings

Anatone should be seeded in late fall with a drill to a depth of 1/4 to 1/2 inch in a firm, weed-free seedbed. The full seeding rate is 8 pounds Pure Live Seed (PLS) per acre. When used as a component of a seed mix, adjust to the percent of mix desired.

Stands may require weed control measures during establishment. Application of 2,4-D should not be made until plants have reached the four to six-leaf stage. Mow weeds at or prior to their bloom stage. Grasshoppers and other insects may also damage new stands and pesticides may be needed.

Stands of bluebunch wheatgrass should not be grazed until they are firmly established (usually two growing seasons) and have headed out. Six inches of new growth should be attained in spring before grazing is allowed in established stands. The growing point of bluebunch wheatgrass is fairly high and stands can easily be overgrazed. It is recommended that this grass be grazed under a rest or deferred rotation grazing system to ensure plants remain healthy. Spring grazing should occur no more than one out of three years and no more than 40 percent utilization should occur during rapid growth. Heavy early spring grazing is especially damaging and should be delayed until at least mid-boot stage. No more than 60 percent utilization should occur after seed ripens.

Once established, bluebunch wheatgrass is competitive with weedy species, but it can be crowded out by aggressive introduced species.

No detrimental disease symptoms or insect problems have been observed in plantings of Anatone. It may be susceptible to stripe rust and mildew if conditions are favorable for these pathogens.

Ecological Considerations

Anatone is native to the Intermountain West and has no known negative impacts on wild or domestic animals. Anatone is not considered a weedy or invasive species but

can spread to adjoining vegetative communities under ideal environmental conditions.

Seed and Plant Production

Seed production of bluebunch wheatgrass has been very successful under cultivated conditions. Row spacing of 24 to 36 inches are recommended under irrigation and 36 inches under dryland conditions. Seeding rates of 3 to 4 PLS per acre are recommended. Cultivation is needed to maintain rows and weed-free conditions. Seed fields are productive for three to four years. Average production of 75 to 100 pounds per acre under dryland conditions and 150 to 250 pounds per acre under irrigated conditions can be expected. Harvesting is best completed by swathing, followed by combining of the cured rows. The seed heads readily shatter and require close scrutiny of maturing stands.

Availability

For conservation use: Seed is widely available from commercial seed vendors.

For seed or plant increase: G1 and G2 Certified seed is maintained at the USDA-NRCS Plant Materials Center in Aberdeen, ID. G2 and G3 seed is available through the University of Idaho Foundation Seed Program and Utah Crop Improvement Association. Certification of seed shall be limited to G2, G3, and G4 generations of seed.

For more information, contact:
Aberdeen Plant Materials Center
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<http://plant-materials.nrcs.usda.gov/idpmc/>

Citation

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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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