BLUEBUNCH WHEATGRASS

*Pseudoroegneria spicata* (Pursh) A. Löve

Plant Symbol = PSSP6

Contributed by: USDA NRCS Idaho Plant Materials Program

Bluebunch wheatgrass seed production field at Aberdeen, Idaho. Photo by Derek Tilley, USDA-NRCS

Alternate Names *Agropyron spicatum, Elytrigia spicata*

Uses

Bluebunch wheatgrass 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. 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 grasses, but does not compete well with aggressive introduced species. 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.

Status

Consult the PLANTS Web site and your State Department of Natural Resources for this plant’s current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Description and Adaptation

Bluebunch wheatgrass is a long-lived, cool-season native perennial bunchgrass growing to 4 feet tall with seed spikes 3 to 8 inches long. The lemma awns range from being short to prominent and divergent except on the beardless type where the awn is lacking. It has an extensive root system with strong tillers. Bluebunch wheatgrass spreads by seed but in high rainfall zones it may spread by short rhizomes.

Bluebunch wheatgrass is common to the northern Great Plains, Northern Rocky Mountains and the Intermountain regions of the western United States. For updated distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Bluebunch wheatgrass does best on medium to coarse-textured soils, but can be found on a range of soil textures over 10 inches deep. It will tolerate weakly saline
conditions but does not grow on highly acidic sites. It is
cold tolerant, moderately shade tolerant, and highly fire
tolerant. It is not tolerant of high water tables, poor
drainage, or periods of extended inundation.

Bluebunch wheatgrass is most abundant in 10 to 20 inch
annual precipitation areas in sagebrush and juniper
communities. The elevation range is from 500 to 10,000
feet above sea level. It is a major component of many
native plant communities and generally occupies 20 to 60
percent of the overall composition by weight.

Establishment
Seed should be drilled at a depth of 1/4 to 1/2 inch into a
clean, firm, weed-free seedbed. The single-species
seeding rate is 8 pounds Pure Live Seed (PLS) per acre.
If used as a component of a mix, adjust to percent of mix
desired. When broadcast seeding and for mine lands and
other harsh critical areas, the seeding rate should be
doubled. Bluebunch wheatgrass is compatible with other
native species and should be used in seeding mixtures. It
should not be seeded with strongly competitive
introduced species. Best seeding results are obtained from
seeding in early spring on heavy to medium-textured soils
and in late fall on medium to light-textured soils. Late
summer (August - mid September) seeding is not
recommended unless irrigation is available.

Management
Grazing should be deferred for 2-3 years to ensure
establishment. Established stands do not tolerate heavy
continuous grazing, and six inches of new growth should
be attained in spring before grazing is allowed. Deferred
rotation grazing is recommended. Spring grazing should
occur no more than one out of three years and less than
40% utilization should occur during rapid growth. Heavy
early spring grazing is especially damaging and grazing
should be delayed until at least mid-boot stage. No more
than 60% utilization should occur after seed ripens.

Environmental Concerns
Bluebunch wheatgrass is native to the Intermountain West
and has no known negative impacts on wild or domestic
animals. It is not considered a weedy or invasive species
but can spread to adjoining vegetative communities under
ideal environmental conditions.

Cultivars, Improved, and Selected Materials (and area
of origin)
Anatone Selected Class Germplasm originated near
Anatone, Washington. It was released by the Forest
Service, BLM, Aberdeen PMC, Idaho-Utah AES, ARS
and the Utah Division of Wildlife Resources in 2003.
Anatone establishes rapidly and can survive under dry
conditions at or above 10 inches rainfall. It is intended for
use on rangelands for re-establishment of native plant
communities, vegetative firebreaks, and critical area
stabilization. Certified seed is available. Generation 1
seed is produced by Aberdeen PMC.

'Goldar' was selected from seed collected on Mallory
Ridge in Asotin County, Washington. It was released by
Idaho-Utah AES, ARS and the Aberdeen PMC in 1989.
'Goldar' is noted for rapid establishment, high forage
production, and the ability to survive with 12 inches
precipitation. Certified seed is available and Breeder and
Foundation seed is maintained by Aberdeen PMC.

P-7 Selected Germplasm was generated by open-
pollinating 25 native populations of bluebunch wheatgrass
resulting in high genetic diversity. ARS and the Utah AES
released P-7 in 2001. It is expected to survive and thrive
under dry conditions at or above 12 inches rainfall.
Certified seed is available and early generation seed is
maintained by USDA-ARS, Logan, Utah..

'Whitmar' a cultivar of beardless wheatgrass (P. spicata
subsp. inermis) is the awnless form of bluebunch wheatgrass. It was selected from seed native to the
Palouse grasslands near Colton, Washington. Idaho-
Oregon-Washington AES and Aberdeen, Corvallis, and
Pullman PMCs released ‘Whitmar’ in 1946. It performs
best above 12 inches rainfall. ‘Whitmar’ was selected for
forage quality, seedling vigor, and good seed production.
Certified seed is available and Breeder seed is maintained
by Pullman PMC.

Prepared By
Derek Tilley; USDA NRCS Plant Materials Center,
Aberdeen, Idaho.

Loren St. John, USDA NRCS Plant Materials Center,
Aberdeen, Idaho.

Citation
bluebunch wheatgrass (Pseudoroegneria spicata). USDA-
Natural Resources Conservation Service, Aberdeen Plant
Materials Center, Aberdeen, Idaho.

Published January 2013

Edited: 19dec2012djt; 19dec2012ls

For more information about this and other plants, please
contact your local 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://plant-
materials.nrcs.usda.gov>