



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

'Bannock' Thickspike Wheatgrass

Elymus lanceolatus ssp. *lanceolatus* (Scribn. & J.G. Sm.) Gould

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



'Bannock' thickspike wheatgrass (*Elymus lanceolatus*) is a cultivar released in 2003 by the USDA Natural Resources Conservation Service Aberdeen Plant Materials Center (PMC) and the Idaho Agricultural Experiment Station.

Description

Bannock is a long-lived, leafy, cool season perennial grass. It is moderately rhizomatous, with good sod-producing qualities. The stems are erect, 15 to 24 inches tall (up to 40 inches irrigated). The leaves, stems, and seed heads have little or no pubescence. Leaves are abundant with a pale green to bluish cast. Seedheads often turn reddish at maturity. There are no awns.

Source

Bannock is a composite of 6 seed collections of thickspike wheatgrass from Pocatello, Idaho; The Dalles, Oregon; and Quincy, Washington that were collected prior to 1948. Specific collection site information is not available.

The original seed collections were planted in 1948. In the late 1950's, six individual plants that were more vigorous

and productive were selected, increased under isolation and seed was bulked. The first generation seed was planted at Tetonia, Idaho and seed from Tetonia was planted at Knoll Creek, Nevada. Seed from Knoll Creek was then brought back to the Aberdeen Plant Materials Center for seed increase. Bannock has been compared to other thickspike wheatgrass cultivars at sites throughout the western United States and is taller, leafier and more productive.

Conservation Uses

Bannock thickspike wheatgrass can be used as a component of a seed mix for rangeland, erosion control, forage and cover seedings in 8 to 16 inch rainfall zones. It is well suited for use in mine spoil reclamation; critical area stabilization where a sod-forming perennial is needed; filter strips to trap sediment; and competition with aggressive annuals such as cheatgrass and medusahead because of its ability to establish sod.

The low growth form, vigorous sod, and low maintenance requirements of streambank wheatgrass make it ideal for stabilization and ground cover purposes. These grasses can be used in urban areas where irrigation water is limited to provide ground cover and to stabilize ditch banks, dikes, and roadsides.

Area of Adaptation and Use

Bannock is adapted to the Northwest and Intermountain regions of the United States where annual precipitation averages above 8 inches. It may be adapted to the northern Great Plains.

Bannock prefers moderately deep, loamy to silt loam soils, but can grow on sandy and clayey soils.

Establishment and Management for Conservation Plantings

Bannock should be seeded with a drill at a depth of 1.2 cm (0.5 in) or less on medium to fine textured soils and 1 inch or less on coarse textured soils. Single species seeding rates recommended for Bannock is 8 pounds Pure Live Seed (PLS) or 20 to 25 PLS per square foot (Ogle et al. 2011a). If used as a component of a mix, adjust to percent of mix desired. For mined lands and other harsh critical areas, the seeding rate should be increased to 40 to 50 PLS per square foot. Mulching and light irrigation are beneficial for stand establishment.

The best seeding results are obtained from seeding in very early spring on fine to medium textured soils and in late

fall on medium to coarse textured soils. Late summer (August - mid September) seedings are not recommended unless irrigation is available. Seedling vigor is good to excellent, exceeding that of western wheatgrass, but less than crested wheatgrass (*Agropyron cristatum*).

Bannock establishes more quickly than western wheatgrass. Thickspike wheatgrass is the most rapidly establishing native species next to slender wheatgrass (*Elymus trachycaulus*). It is compatible with other native species and can be used in seeding mixtures, but should not be seeded with strongly competitive introduced species. .

Stands may require weed control measures during establishment, but application of 2,4-D should not be made until plants have reached the three to five leaf stage (Smith et al. 1996). Mow when weeds are beginning to bloom to reduce seed development.

New stands should not be grazed until they have firmly established and have headed out. Six inches of new growth should be attained in spring before grazing is allowed in established stands and four inches of stubble should be left at the end of the grazing season

Ecological Considerations

This variety release is from a species native to the Intermountain West and has no known negative impacts on wild or domestic animals. Bannock 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 Bannock has been very successful under cultivated conditions. Row spacing of 71 to 91 cm (28 to 36 in) is recommended Row culture via cultivation should be maintained for optimum seed production however this can be difficult because of the rhizomatous nature of the grass.

Seed fields are productive for two to four years. Average production of 100 to 250 pounds per acre can be expected under dryland conditions in 355 (14 in) plus rainfall areas. Average production of 200 to 400 pounds per acre can be

expected under irrigated conditions (Cornforth et al. 2001; Smith et al 1996). Seed is harvested by swathing, followed by combining of the cured windrows (Smith et al. 1996). The seed heads readily shatter and require close scrutiny of maturing stands. Seed is generally harvested in mid July to mid August.

Availability

For conservation use: Certified seed is available from commercial seed vendors.

For seed or plant increase: Breeder and Foundation seed is maintained by the Aberdeen PMC. Foundation seed is available through the University of Idaho Foundation Seed Program. Certification of seed shall be limited to not more than two generations from Foundation seed. Variety protection has been granted under the Plant Variety Protection Act of 1970. Conditions of this license specify that Bannock seed can be marketed only as a class of certified seed.

For more information, contact:
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