



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

'Mandan'

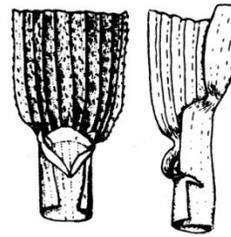
Canada Wildrye

Elymus canadensis

A Conservation Plant Release by USDA NRCS Plant Materials Center, Bismarck, North Dakota



- relatively self-pollinated, with some cross-pollination
- bunchgrass with very short rhizomes
- susceptible to leaf rust, stem rust, and ergot
- nodding, spike type seed head



Schumacher, Charles, and Lyle Derscheid. Identification of 22 Grasses Common in South Dakota. Cooperative Extension Service, U.S. Department of Agriculture, South Dakota State University. FS 600.

Ligule and Auricle

Description

Canada wildrye (*Elymus canadensis* L.), also known as nodding wildrye, is a short-lived, perennial bunchgrass. It is a cool-season grass that begins growth later in the spring and growth continues longer in the summer than smooth brome grass. It is moderately drought tolerant.

Habitat/Distribution

Canada wildrye grows on a wide array of soils, but grows best on porous, well-drained soils that are sandy, gravelly, or rocky. It is found in a variety of dry to moist, usually open habitats, including grasslands, ravines, drainage courses, stream banks, sandy shores and dunes, wooded areas along trails, rivers, and streams and disturbed areas along depressions, ponds or streams. Seedlings are vigorous and establish quickly, but are not highly competitive with other grasses. Growth begins late in the spring. It has good tolerance to salinity and tolerates shade very well. It is widely distributed throughout North America except in extreme southern and eastern locations. It is most common in the tall grass prairie region.

Plant Characteristics

- stems hollow and coarse
- plant height of 2 to 5 feet
- leaf blades flat or sometimes slightly curled, coarse, wide (up to 0.8 inches), waxy green, pointed
- claw-like auricles or earlike lobes extend from the leaf margins to clasp the stem
- curved, long awns on seed unit
- short-lived, decreasing in vigor a few years after establishment
- 115,000 seeds/pound average

Source

'Mandan' is a variety that was released in 1946. It was developed at the Northern Great Plains Field Station at Mandan, ND. Seeds were collected and bulked in 1935 from plants found on an upland site in central North Dakota near Mandan. Mass selections for leafiness, fineness of leaves, short stature, and resistance to stem rust were made on the progenies of two single plants at the field station. Seeds from the selected plants were then grown and increased as the variety Mandan.

According to the original release information from 1946, the variety was developed and released through the cooperative efforts of the Division of Forage Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration; Division of Nurseries, Soil Conservation Service (both of the U.S. Department of Agriculture), and the North Dakota Agricultural Experiment Station. Today, these agencies are USDA, Agricultural Research Service; USDA, NRCS Plant Materials Center; and the North Dakota Agricultural Experiment Station.

When selected in 1946, the main virtues of Mandan Canada wildrye were ease of establishment, rapid growth, and high seed and forage yields. The variety is superior to common Canada wildrye in several characteristics. The plants are finer, shorter, and more leafy with the leaves being softer in texture. It is also longer lived than many strains and has the ability to withstand grazing over a period of several years. It shows some susceptibility to rust but is more resistant than the other strains tested prior to the 1946 release of Mandan. It is the only known released variety of Canada wildrye adapted to the Northern Great Plains.

Conservation Uses

It is often an early successional component of prairie mixtures. Forage quality is good during the early part of the grazing season but is generally considered inferior after it matures. It is fairly palatable to most livestock, and is rated good in energy value, but poor in protein value. Palatability to wildlife ranges from fair to good. It also provides nesting, brood, winter and escape cover. It can be used in seeding mixtures as a rapid cover and site stabilizer for roadside revegetation, critical areas, parks and recreational areas, prairie restoration, pasture plantings, landscaping, and floral arrangements. Exceptional seedling vigor and rapid establishment make Canada wildrye an excellent species for erosion control seedings. Stands of Canada wildrye typically establish during the 1st year, reach peak production the 2nd or 3rd year, and then rapidly thin out. It is typically seeded in a mix with warm or cool-season grasses. Dogs have known to be injured from the barb-like awn.



Area of Adaptation and Use

Mandan is adapted and recommended for use in the Northern Great Plains and Upper Midwest.

Establishment

Successful plantings can be made in early or late fall or in the spring. No nurse crop is needed. Establishment is relatively rapid, but germination may be slower than for other grasses such as crested wheatgrass. De-awned seed flows much more freely and uniform through a drill than seed that has not had the awns removed. This will increase the opportunity for a successful seeding. A full seeding rate in North Dakota averages 6.5 to 7.5 PLS lb/acre. Plants readily establish the year of seeding. In favorable growing conditions, a small seed harvest the year of establishment is possible. The average seed yields

range from 150 to 300 lb/acre dryland and 400 to 1,100 lb/acre irrigated in the Northern Great Plains. The expected productive stand life is 3 to 5 years. Swathing and drying in the windrow works best for seed harvest. Seed should be processed to remove the awn in the cleaning procedure.

Forage Management

Canada wildrye should be cut just as the heads are emerging from the boot for good quality, nutritious hay. Grazing should begin after plants are greater than 5 inches tall. Canada wildrye generally decreases in response to grazing.

Availability

For conservation use: Mandan Canada wildrye is readily available in the commercial seed market. Contact your local NRCS field office or the Bismarck PMC for use and availability of Mandan Canada wildrye.

For seed increase: Foundation seed is grown and available from the USDA NRCS Plant Materials Center, Bismarck, ND.

For more information, contact:
USDA-NRCS Plant Materials Center
3308 University Drive
Bismarck, ND 58504
Phone: (701) 250-4330
Fax: (701) 250-4334
<http://Plant-Materials.nrcs.usda.gov>

Citation

Release brochure for Mandan Canada wildrye (*Elymus canadensis*). USDA Natural Resources Conservation Service, Plant Materials Center. Bismarck, North Dakota 58504. Published July 2005, revised August 2012.

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

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