



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

'Manska'

Pubescent Wheatgrass

Thinopyrum intermedium

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



'Manska' pubescent wheatgrass (*Thinopyrum intermedium* [Host] Barkworth & D.R. Dewey) was released cooperatively in April 1992 by the USDA Agricultural Research Service, the USDA Natural Resources Conservation Service, the North Dakota Agricultural Experiment Station, and the University of Nebraska. The cultivar is high in nutritive value and is recommended for pasture and hay in regions of the northern and central Great Plains that average at least 14 inches of annual precipitation.

Description

Pubescent wheatgrass is a cool-season, sod-forming grass introduced from Eurasia, where it is widely distributed. Plant is 2.4 to 4 feet tall; seed head has short, stiff hairs and has a spike 4 to 8 inches long that matures in August. Leaf blade is flat and veined, broad at the base and tapered to a point. Auricles are of medium length and clasping. Ligule is short. It is similar in appearance and production to intermediate wheatgrass. Pubescent wheatgrass,

however, is a subspecies of intermediate wheatgrass that is distinguished by the presence of short,



stiff hairs on the seed head. Approximately 70% of the plants from Manska are pubescent. Manska is moderately rhizomatous and heads 7 to 8 weeks after spring green up. Nearly all (85-90%) of the tillers produce seed heads. Plant height is intermediate between slender and tall wheatgrass.

Source

The source population for Manska consisted of plants selected from diverse seed lots of Mandan 759, an experimental strain of pubescent wheatgrass that has had wide commercial use but has never been formally released as a cultivar. This selection was tested as Mandan I 2781 (PI 562527). The plants were evaluated at the Northern Great Plains Research Laboratory, Mandan, North Dakota, to determine resistance to leaf-spot disease, spring recovery, nutritional quality, and forage and seed yields.

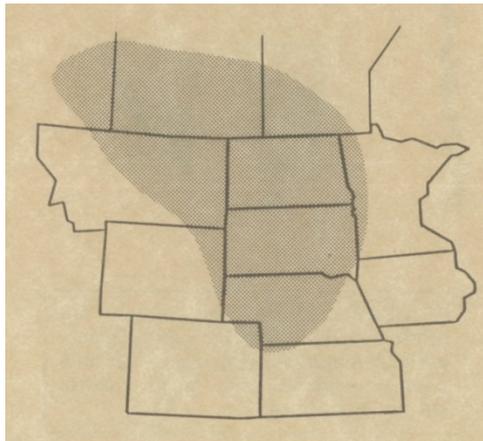
Conservation Uses

Manska is recommended for pasture and hay. High nutritive value is the primary advantage of Manska over other cultivars of pubescent and intermediate wheatgrass. In tests at Mandan, North Dakota, in vitro digestible organic matter at flowering averaged 62% and 56% for Manska and 'Oahe', respectively. At Meade, Nebraska, daily gains from yearling steers averaged 2.7 lb for Manska and 2.3 for Oahe over two grazing periods at a high stocking rate of three steers per acre. Weight gains for the two grazing periods averaged 266 and 230 lb/ac, respectively, for Manska and Oahe. Dry matter yields of hay averaged over 13 station years at four test sites in North Dakota were 3774 and 3776 lb/ac, respectively, for Manska and the most commonly grown intermediate wheatgrass cultivar, Oahe. In Nebraska, dry matter yields from 8 station years at 3 test sites averaged 5135 and 5403 lb/ac, respectively, for Manska and Oahe, a 5% yield advantage for Oahe. No data exist on long-term persistence of Manska under grazing. Based on performance of other pubescent and intermediate wheatgrass cultivars, maintenance of Manska at a high stand density under grazing would likely require prudent management to assure adequate fall-season recovery, especially when stressed from drought or exposed to high levels of winter stress in the northern Great Plains.

Area of Adaptation and Use

Manska is adapted over a relatively large geographic area of the northern and central Great Plains. Pubescent wheatgrass becomes dormant under hot, dry conditions, and Manska is not recommended for areas that average less than 14 inches of annual precipitation. Manska is adapted to a wide range of coarse and fine-textured soils,

but has only moderate tolerance to soil salinity. The primary area of adaptation for Manska is indicated on the map below.



Establishment and Management for Conservation Plantings

Pubescent wheatgrass has good seedling vigor compared with other commonly grown grasses. Stand establishment is enhanced by seeding into a well-packed, weed-free seedbed. Shallow seed depth (less than 1 inch) is desirable. Chemical weed control after grass seedlings have reached the three-leaf stage will hasten stand establishment. Successful stands are obtained by seeding in early spring, late summer if soil water is adequate, or by use of a dormant seeding in late fall when soil temperature is maintained below 40 degrees F. A seeding rate of 20-25 pure live seeds (PLS) per square foot (10-12 lb/ac PLS) is recommended when pubescent wheatgrass is seeded alone.

Seed and Plant Production

Seed heads of pubescent and intermediate wheatgrasses do not shatter as readily as many other grass species, and seed maturation among tillers is usually quite uniform. The seed crop is usually swathed because shattering may

result in serious yield losses if seed matures under dry, windy conditions. Seed yields of Manska from 12 station years at 4 dryland test sites in North Dakota and Saskatchewan averaged 380 lb/ac.

Availability

For conservation use: For more information on availability and use of Manska pubescent wheatgrass, contact your local NRCS field office or the Bismarck Plant Materials Center.

For seed or plant increase: Foundation seed of Manska is available for certified seed increase from the USDA NRCS Plant Materials Center, Bismarck, North Dakota and the Foundation Seed Division, Department of Agronomy, University of Nebraska, Lincoln, Nebraska.

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

Citation

Release brochure for Manska pubescent wheatgrass (*Thinopyrum intermedium*). USDA Natural Resources Conservation Service, Plant Materials Center. Bismarck, North Dakota 58504. Published March 1993, revised January 2014.

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/>>

Helping People Help The Land

USDA IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER