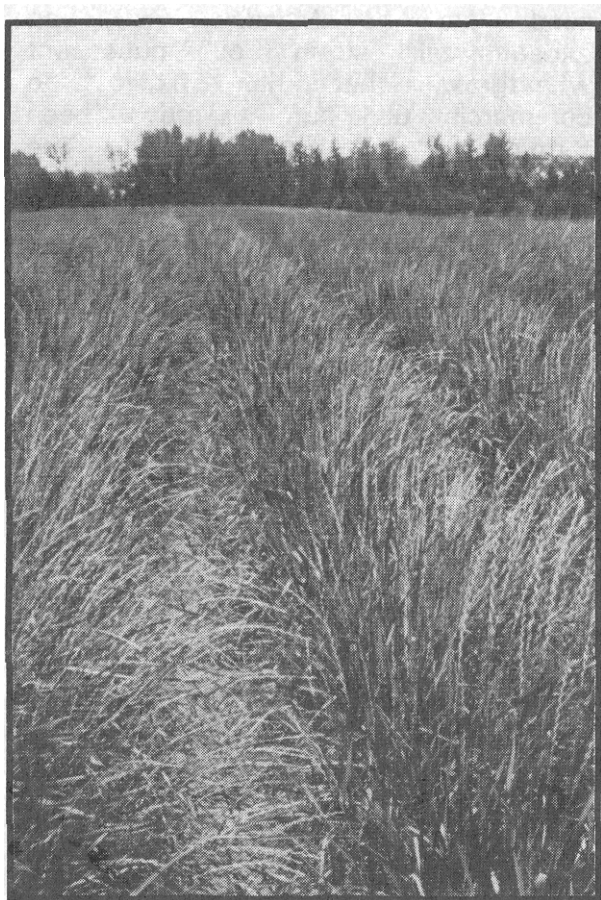


United States Department of Agriculture



Soil Conservation Service, Bismarck, North Dakota  
Agricultural Research Service, Mandan, North Dakota

# 'Manska' pubescent wheatgrass



## 'Manska' pubescent wheatgrass

'Manska' pubescent wheatgrass (Mandan I 2781, PI 562527) was released cooperatively in April 1992 by the USDA Agricultural Research Service, the USDA Soil 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.

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. 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.

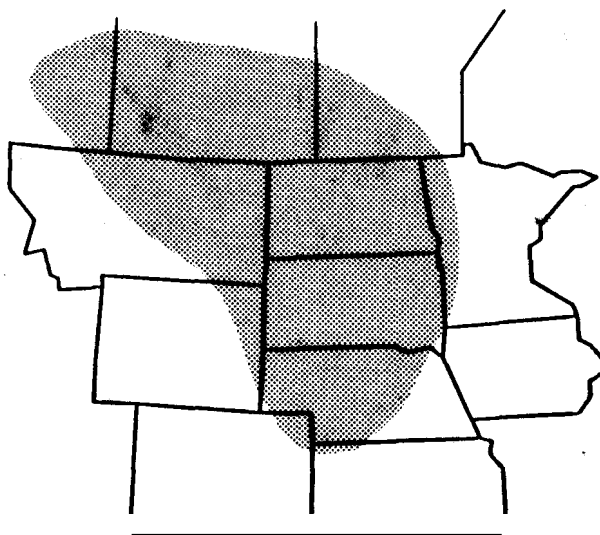
## Description

Pubescent wheatgrass is a cool-season, sod-forming grass introduced from Eurasia, where it is widely distributed. It is similar in appearance and use 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 greenup. Nearly all

(85-90%) of the tillers produce seed heads. Plant height is intermediate between slender and tall wheatgrass.

## Adaptation

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. Dry matter yields of hay averaged over 13 station years at 4 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. The primary area of adaptation for Manska is indicated on the map.

## 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 averaged 62% for Manska and 56% for Oahe when the plants were shedding pollen. At Meade, Nebraska, daily gains from yearling steers averaged 2.7 lb for Manska and 2.3 for Oahe over 2 grazing periods at a high stocking rate of 3 steers per acre. Weight gains for the 2 grazing periods averaged 266 and 230 lb/ac, respectively, for Manska and 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.

## Establishment

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

### Seed Availability

Foundation seed of Manska for certified seed increase is available from the USDA-SCS Plant Materials Center, P. O. Box 1458, Bismarck, ND 58502 and the Foundation Seed Division, Department of Agronomy, University of Nebraska, Lincoln, NE 68583. Limited quantities of certified seed from commercial vendors will be available beginning in the fall of the 1993. One generation each of foundation and

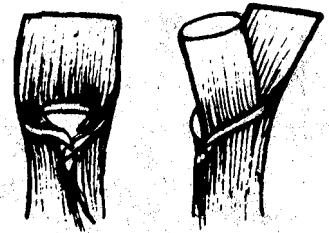
certified, seed beyond breeders seed is authorized.

## Pubescent Wheatgrass

*Thinopyrum intermedium* subsp. *barbulatum*



Sod former from short rhizomes, introduced from Eurasia. Plant is 2.4 to 4 feet tall; seed head has short, stiff hairs and is 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.



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