



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

'Pryor'

## Slender wheatgrass

*Elymus trachycaulus* (Link) Gould ex Shinnars

A Conservation Plant Release by USDA NRCS Bridger Plant Materials Center, Bridger, MT



*Pryor slender wheatgrass*

'Pryor' slender wheatgrass (*Elymus trachycaulus* [Link] Gould ex Shinnars) is a cultivar released in 1988 in cooperation with the Montana and Wyoming Agricultural Experiment Stations.

### Description

Pryor slender wheatgrass is a cool-season, native, perennial grass. It grows 2 to 3 feet tall from dense, fibrous, and relatively shallow (18 inches) roots. Slender wheatgrass is short-lived (3 to 5 years), and establishes as a bunch-type plant from numerous leafy tillers. Distinguishing characteristics from other wheatgrasses are leaves and stems tinged reddish-purple at the base, distinctly veined leaf sheath, prominent and strongly nerved glumes; and a narrow, slender seedhead.

### Origin

Pryor slender wheatgrass originates from a seed collection made of several plants in an intermittent drainage in a saline, upland range site in Carbon County, Montana. The area receives slightly less than 10 inches of annual precipitation and is at an elevation of 4,600 feet. Pryor was tested for more than 9 years against improved cultivars and native collections from halophyte plant communities in Montana and Wyoming. It consistently rated superior in seedling vigor, salt and drought tolerance, forage and seed production, and stand longevity. The original collection of Pryor was directly increased without selection.

### Conservation Uses

Pryor slender wheatgrass is ideal for use in mixtures for conservation and reclamation plantings. In a native seed mixture, it should not constitute more than 20 percent of the total weight in the mix because of its rapid establishment and competitive nature. Pryor slender wheatgrass is very tolerant of saline soils.

Pryor is used in short rotation for hay or pasture and makes good hay for 2 to 3 years before rapidly declining in stand and production. Irrigated yields range from 2,000 to 8,000 pounds per acre, whereas dryland yields may be half or less. It is palatable when grazed or harvested prior to flowering. Slender wheatgrass has high feed value in spring and early summer for livestock and big game animals, such as elk and bighorn sheep. It provides good wildlife cover due to its upright structure and standing residue. Pryor matures 2 to 3 weeks earlier than other cultivars of slender wheatgrass, becoming somewhat coarse with age. Seeds are eaten by a variety of small animals, including upland game birds such as sage grouse.

### Area of Adaptation

Pryor is adapted to a wide range of soil types and is most commonly found on loamy clay soils in areas receiving a minimum of 10 inches annual precipitation at elevations of 3,500 to 10,000 feet. It is predominantly found in the semiarid portions of the intermountain west and northern Great Plains regions. Slender wheatgrass inhabits moist to well-drained soils along rivers and meadows, as well as under open forest canopy. Pryor is capable of withstanding periodic flooding and extended drought.



Area of adaptation for Pryor slender wheatgrass

## Establishment and Management for Conservation Plantings

Pryor slender wheatgrass is easily established from seed. For best results, seed should be planted into a firm, weed-free seedbed. The recommended seeding rate in a pure stand is 7 pounds pure-live-seed per acre. Pryor is commonly used in mixtures at a seeding rate of 1 to 2 pounds pure live seed (PLS) per acre. It has 97,000 seeds per pound. A seeding depth of ¼- to ½-inch is recommended. Planting can be done either as a dormant seeding in late fall or in the spring. Established stands of Pryor require careful management because it is short-lived and susceptible to over-grazing.



A 6-year-old field of Pryor slender wheatgrass at the Bridger Plant Materials Center

## Ecological Considerations

Slender wheatgrass is slightly susceptible to head smut *Ustilago bullata* and stripe smut *Ustilago striiformis*, and may be susceptible to infestations of grass billbug *Sphenophorus* spp. It does not tolerate heavy shade or waterlogged soil. Slender wheatgrass is not classified as a weed, but may persist due to abundant self-seeding. Slender wheatgrass is self-pollinating.

## Seed Production

Seed of Pryor slender wheatgrass is relatively easy to produce. Seed fields should be established in 22- to 30-inch spaced rows and cultivated to maintain the rows. Irrigated results in seed production yields of 600 to 900 pounds per acre for 3 years. Seed grown under dryland conditions require at least 16 inches of annual precipitation with yields approximately one-half of irrigated production. Seed fields can be either swathed or direct-combined when seed is at the firm dough stage or at the first sign of shatter from the tip of the seedhead. Seed combined out of cured windrows does not require additional drying prior to storage, whereas direct-combined seed requires drying prior to storage. Direct cutting of Pryor will result in less seed shatter loss, but more immature seeds will be harvested. The average

harvest date at the Bridger Plant Materials Center is July 15.



Harvesting Foundation seed of Pryor slender wheatgrass with a small combine at the Bridger Plant Materials Center

## Availability

Pryor slender wheatgrass is widely available on the commercial seed market. Breeder and Foundation seed of Pryor is maintained by the USDA-NRCS Plant Materials Center in Bridger, Montana. It is available to commercial growers through the Montana Foundation Seed Program at Montana State University-Bozeman and the University of Wyoming Foundation Seed Service in Powell, Wyoming. Foundation, Registered, and Certified seed classes are recognized.

For more information, contact:  
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<http://plant-materials.nrcs.usda.gov/mtpmc>  
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## Citation

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