



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

# 'Rush'

## Intermediate wheatgrass

*Thinopyrum intermedium* (Host) Barkworth  
& D.R. Dewey

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



'Rush' Intermediate wheatgrass

'Rush' intermediate wheatgrass was released in 1994 in cooperation with the University of Idaho Agricultural Experiment Station. It was selected for superior seedling emergence and vigor compared to other intermediate wheatgrass cultivars.

### Description

Rush intermediate wheatgrass grows to 3 to 4 feet tall. It is an introduced, long-lived, cool season grass with short rhizomes and a deep feeding root system. The leaves are flat and narrow. There is variation in leaf color from green to moderately glaucous (whitish, waxy covering). The seed spikes are 8 to 12 inches long and spikelets are 0.70 to 0.90 inches long. There are usually fewer than seven florets per spikelet.

### Source

The USDA Natural Resources Conservation Service, Plant Materials Center at Aberdeen, Idaho received the original seed from the German Botanical Garden, Berlin, in 1962. Intermediate wheatgrass is native to Eurasia and has been cultivated there and in the United States for many years.

Rush was compared with seven released cultivars of intermediate wheatgrass and other cool season grasses at

sites throughout the western United States. It was selected for superior seedling emergence and vigor. Rush has equal to or superior forage production compared to other intermediate wheatgrass releases.

### Conservation Uses

Rush intermediate wheatgrass is used for rangeland and pastureland seeding in 12 to 20 inch precipitation zones for erosion control, forage and cover. It competes well with aggressive annuals such as cheatgrass and medusahead because of its ability to establish quickly. Rush is used in critical area stabilization where a fast germinating, rhizomatous perennial is needed and in filter strips to trap sediment. It is also used as irrigated pasture to provide feed and cover.

### Area of Adaptation and Use

Rush is adapted to the Northwest and Intermountain West regions of the United States where annual precipitation is 12 inches or more. It may be adapted to the mountains of the Southwest, the Western and Northern Great Plains and the Southern Canadian Plains. Rush is well adapted to moderately deep, loamy soils but also grows on sandy and clayey soils.

### Establishment and Management for Conservation Plantings

Rush intermediate wheatgrass should be seeded with a drill at a depth of ½ inch or less on medium to fine textured soils and no more than 1 inch deep on coarse textured soils. The recommended seeding rate is 10 pounds Pure Live Seed (PLS) per acre. For critical area stabilization, double the seeding rate. If used as a component of a mix, adjust seeding rate to percent of mix desired. The best dryland results are obtained from seeding in very early spring on heavy to medium textured soils and in late fall (dormant) on medium to light textured soils. Irrigated lands should be seeded in spring and late summer. Late summer (August - mid September) seedings are not recommended unless irrigation is available.

Rush establishes quickly and seedling vigor is excellent. It makes good spring growth, fair summer growth, and good fall growth, if moisture is available. Light, frequent irrigation is beneficial for stand establishment.

New seedings should be protected until fully established and the plants are able to withstand pulling by grazing animals without being uprooted. It is beneficial to cut at least one hay crop prior to grazing.

Stands may require weed control measures during establishment. Application of herbicides should not be made until plants have reached the four to five leaf stage (be sure to read and follow label directions). Mowing the stand when weeds are beginning to bloom will reduce weed seed development. Grasshoppers and other insects may also damage new stands and pesticides may be needed for control.

Rush is highly palatable to livestock and wildlife. Livestock and wildlife will graze it throughout the growing season, but it is most preferred as forage in spring, early summer, and fall. A healthy, productive stand will not withstand heavy continuous grazing.

Eight inches of new growth should be attained in spring before grazing is allowed on established stands. A four-inch stubble height should be maintained following grazing or mowing and going into winter.

On irrigated stands apply fertilizer as needed to maintain vigorous growth. A balance of nitrogen and phosphate fertilizer needs to be considered in order to maintain a legume component in a mixture. A soil test is recommended.

Forage production can be restored and stands may benefit from ripping if sod bound conditions occur. Care should be taken to avoid excessive tillage because stands may be damaged.

### **Ecological Considerations**

This release is from a species that was introduced to the United States in the early 1900's. Rush represents an incremental improvement in performance within a well documented species. Rush spreads slowly vegetatively and very little via seed distribution. It is not considered a weedy or invasive species but can spread into adjoining vegetative communities under ideal environmental conditions. There are no known negative impacts on wild or domestic animals.

### **Seed and Plant Production**

Seed production of intermediate wheatgrass is generally not difficult. Rush should be seeded in 36 inch rows at a seeding rate of 4.9 pounds PLS per acre to allow mechanical weed control and to maintain rows. Rush may be seeded during the spring, late summer, or fall (dormant). Intermediate wheatgrass is rhizomatous and to maintain seed production it should be maintained by cultivation in rows.

Average seed production of 250 to 350 pounds per acre can be expected under dryland conditions (minimum 14 inches annual precipitation required for sustainable seed

production). Average production of 450 to 550 pounds per acre can be expected under irrigated conditions. Seed yields drop significantly after about four years of production. Harvesting is best completed by swathing, followed by combining of the cured rows. The seed heads will shatter when mature and if direct combining is desired the stand should be harvested when the top of seed heads just begin to shatter. Harvested seed must be dried to 12 percent moisture before storing in bins and to 15 percent before storing in sacks. Seed is generally harvested in mid to late 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 and the Utah Crop Improvement Association. Certification of seed is limited to not more than two generations from Foundation seed. Variety protection has been granted under the Plant Variety Protection Act of 1970 and Rush may only be marketed as a class of Certified seed.

*For more information, contact:*  
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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/>>

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