



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

# 'Rodan'

## Western Wheatgrass

*Pascopyrum smithii*

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



'Rodan' western wheatgrass, *Pascopyrum smithii* (Rydb.) A. Löve has been released cooperatively by the Agricultural Research Service (ARS) and the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) and the North Dakota State Agricultural Experiment Station.

### Description

Rodan western wheatgrass (PI-477993) is strongly rhizomatous; it forms a tight sod under dryland conditions. The leaves are thinner and less heavily veined than other western wheatgrass cultivars.

### Source

The original seed collection, accession number Mandan-456, was made from a 70-acre field of western wheatgrass in the Heart River bottoms near Mandan, ND, by George Rogler, ARS agronomist. Over the years, selections and intercrosses were made to improve leafiness, stand development, winter hardiness, drought tolerance, and disease resistance.

### Conservation Uses

Rodan is well suited to range seedings, cool-season pasture, revegetation of surface-mined land, and the stabilization of other critical areas. It is palatable to all classes of livestock.

### Area of Adaptation and Use

Rodan is adapted to medium to fine-textured soils; to neutral to strongly alkaline, irrigated, overflow bottomlands; or to dryland that has 14 or more inches of precipitation. It is recommended for use in the Dakotas and in eastern Montana and Wyoming.

### Establishment

Stands are readily obtained by using recommended rangeland or pastureland reseeding methods. Seedings are satisfactory if done in the spring before May 15 or in the late fall after October 20. The planting site should be free of perennial or noxious weeds. A moist, firm seedbed is essential. Packing before planting is done with a harrow or corrugated roller until adult footprints are ½ inch or less in depth. On coarse-textured or erosive sites, seeding can be made directly into standing stubble of sudangrass, oats, barley, or flax. Companion crops are not recommended and grazing should be deferred during the establishment year. The drill should be equipped with seed agitators, disk openers, packer wheels, and depth bands to limit the planting depth to between ½ and ¾ inch.

### Performance

In 58 replicated trials in Montana, Canada, and the Dakotas, Rodan yielded an average of 178 lb/acre more forage than other western wheatgrass cultivars. Rodan is similar to 'Rosana' in area of adaptation, but it is more productive than Rosana on coarse-textured soils. Seed yield is similar to that of Rosana. Rodan seed has a short awn. It has moderate to good resistance to stem rust that infects western wheatgrass in the northern Great Plains. Recent studies by ARS indicate that Rodan exhibits 20 to 25 percent higher water-use efficiency than 'Flintlock' and Rosana.



### Seed Production

Irrigated stands for seed production generally remain economically productive only for 3 or 4 years. Seed production fields should be seeded in row spacings of 30 to 36 inches and cultivated during establishment. Once rhizome development starts, the planting is allowed to become solid. If yields from a fourth successive crop are reduced, the field should then be renovated or re-established. Apply nitrogen fertilizer in the fall each year.

at a rate of 60 lb/acre actual nitrogen. Apply approximately 3 inches of irrigation water at the boot stage, after flowering, and in the late fall before freezeup. The seed matures from late July to early August. Harvesting is accomplished by windrowing when the seed is in the hard-dough stage, and combining is done when windrows have cured. There are no particular threshing or cleaning problems with Rodan. Average purity and germination is 85 and 80 percent, respectively. Seed yields average about 170 lb/acre pure live seed at the NRCS Plant Materials Center in Bismarck, North Dakota.

**Availability**

*For conservation use:* For more information on the availability and use of Rodan western wheatgrass, contact your local NRCS or conservation district office.

*For seed increase:* The NRCS Plant Materials Center maintains and produces the foundation seed.

*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 Rodan western wheatgrass (*Pascopyrum smithii*). USDA Natural Resources Conservation Service, Plant Materials Center. Bismarck, North Dakota. Published August 1988, 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](http://www.nrcs.usda.gov)) or Conservation District and visit the PLANTS Web site ([www.plants.usda.gov](http://www.plants.usda.gov)) or the Plant Materials Program Web site ([www.plant-materials.nrcs.usda.gov](http://www.plant-materials.nrcs.usda.gov)).

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