



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

'Shoshone'

Manystem wildrye

Leymus multicaulis (Kar. & Kir.) Tzvelev

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



Shoshone manystem wildrye Leymus multicaulis

'Shoshone' manystem wildrye (*Leymus multicaulis*) (Kar. & Kir.) Tzvelev is a cultivar released in 1980 by the Bridger Plant Materials Center in cooperation with the agricultural experiment stations of Montana State University and the University of Wyoming.

Description

Shoshone manystem wildrye is an introduced, perennial, cool-season, sod-forming grass. Plants spread by underground stems and by seed, sometimes forming distinct clumps. Flowering culms can reach 19 to 32 inches tall. Leaf blades are grayish-green, stiff and flat early in the growth season, becoming rolled later in the year.

Source

Shoshone was originally released in 1980 as a native beardless wildrye (*Leymus triticoides*). After its release, however, Shoshone was determined to be *Leymus multicaulis*. The original collection was made in 1958 from the Riverton, Wyoming, fairgrounds, possibly from a seeded stand established in the 1940s from an unknown source.

Conservation Uses

Shoshone manystem wildrye is primarily used for reclamation of wet, saline soils. It can be used on both saline-affected irrigated cropland and pastureland and saline seep discharge areas on dry cropland. Shoshone also can be used for forage, stabilization, and wildlife cover plantings. It is palatable to all classes of wildlife.

Distribution and Adaptation

In its native range in Eurasia, manystem wildrye is found in alkaline meadows and saline soils, pastures, roadsides, and around human habitations. In the intermountain West, it is adapted to wet, saline meadows, where rainfall exceeds 9 to 14 inches or where wet, saline-alkaline, sub-irrigated sites exist. Manystem wildrye does well on moderately-coarse/sandy to poorly-drained soils, and ranges from uplands and slopes to bottomlands. It tolerates neutral to strongly alkaline soils (pH 6.6 to 9.0) and soils classified as strongly saline (greater than 16 decisiemens per meter). Winter hardiness and frost tolerance are good, though variable among seed lots. It is moderately shade tolerant.

Shoshone manystem wildrye has been widely introduced throughout the western United States, but its exact distribution is currently unknown. For updated distribution, please consult the Plant Profile page for this species on the PLANTS web site.

Establishment and Management for Conservation Plantings

Fall dormant plantings are recommended for northern regions to overcome seed dormancy. Spring-planted seed must be mechanically scarified to break seed coat imposed dormancy. Seedlings have poor vigor, develop slowly, and compete poorly with weeds and other forage grasses in the first year of establishment. It is very important to minimize weed competition with properly prepared seedbeds and adequate weed management prior to seeding. For range and pasture seedings, seeds should be drilled into a well-disked seedbed in late fall just prior to freeze up at ¼-inch depth at a rate of 6 to 9 pounds pure live seed per acre (for full-rate, monotypic seedings). Alternately seeds can be broadcast at a rate of 10 to 20 pounds pure live seed per acre.

Vegetative planting of rhizomes ('sprigging') in mid-September to November is recommended for establishment on sites typically saturated or under standing water in the spring or early summer, or where rapid cover is needed. Stand establishment from sprigs is slow during the first year, but once established rhizomes spread rapidly to produce better coverage and more forage than stands originating from seed. Sprigging at a rate of 40 bushels per acre is recommended for streambank protection plantings.

Ecological and Environmental Considerations

Manystem wildrye may be susceptible to a soil-borne pathogen, "take-all" disease, caused by the root-inhabiting

fungus *Ophiobolus graminis*. An application of 100 pounds per acre of phosphorus and potassium fertilizer may temporarily arrest the disease. More drastic follow-up measures to renovate the site include plowing to a 6-inch depth, harrowing, and irrigating to promote rhizome emergence. Manystem wildrye varies in resistance to leaf rust, stripe rust, and ergot. No ill effects are known from livestock consumption of the infected material. Manystem wildrye is known to produce fertile hybrids with beardless wildrye (*Leymus triticoides*). Seed production in these species is poor so hybrid offspring should not have a competitive advantage in native plant communities.

Seed Production

Shoshone manystem wildrye has approximately 181,000 seeds per pound. The recommended seeding rate for seed production under irrigation is 3.7 pounds pure live seed per acre at 24-inch row spacing, or 24 seeds per lineal foot of row. Although susceptibility to seed shatter is low, windrowing followed by combining is still recommended to maximize production. No special problems are presented in cleaning the seed.



Shoshone manystem wildrye foundation seed production field at the Bridger Plant Materials Center

Shoshone is commonly cultivated the first two to three years and then allowed to spread into solid stands. Seed yields and stand longevity are reduced when between-row cultivation is not practiced. Seed yields of Shoshone manystem wildrye average 200 pounds per acre.

Availability

For conservation use: There is a limited quantity of seed available on the commercial market.

For seed or plant increase: The USDA-NRCS Plant Materials Center in Bridger, Montana, maintains Foundation seed of Shoshone manystem wildrye and is

available to commercial growers through the Montana Foundation Seed Program at Montana State University-Bozeman and the University of Wyoming Foundation Seed Service at Powell, Wyoming. Registered and Certified classes beyond Foundation are recognized.



Solid stand of Shoshone manystem wildrye at the Bridger Plant Materials Center

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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