

USDA-Natural Resources Conservation Service

Notice of Source Identified Plant Release

Virginia Wild Rye

The USDA-Natural Resources Conservation Service (NRCS), the University of Missouri at Columbia (UMC), Missouri Department of Conservation (MDC) and the Missouri Department of Transportation (MODOT), announce the release of a source identified Northern Missouri Germplasm of Virginia wild rye, *Elymus virginicus* L.

The Virginia wild rye has been assigned the NRCS accession number 9079044.

Origin: Counties north of the Missouri River.

Ecotype Description:

Virginia wild rye is a perennial cool season bunchgrass which grows to a height of 3 feet. Rough to the touch, the leaves are generally smooth to scabrous and vary from 5 to 14 inches (12 to 35cm) long and are up to 2/3 inch (1.5cm) wide. The flower spikes are robust and upright and have straight awns (0.3 to 4cm). Each spikelet contains two to three flowers. Empty scales (glumes) are lance-shaped and up to 1 inch (2.5cm) long. In general, the seed heads of Virginia wild rye are stiff straight and upright, while the seed head of Canada wild rye are curved and drooping. It may require 85,000 seeds of Virginia wild rye to make a pound. The grains are edible, but their long awns must be removed before they can be used. Pinole, a natural flour, is made from this and other seeds. Virginia wild rye is palatable and makes good forage and hay. It is a cool season grass, so it furnishes fall and spring pasture. Sometimes it is seeded in warm season grass mixtures to extend grazing seasons. It can be used in pure stands in early fall for winter pastures. A fungus called ergot (*Claviceps purpurea*) may be a problem, however, if this grass is not harvested early. This fungus infects the grass and forms a black mass that replaces the ovary of the grass flower and becomes several times longer than the fruit. It may cause abortion and other ill effects in cattle. Ergot may also occur in other grasses, such as Canada wild rye and bromegrass.

Management:

Virginia wild rye seeds per pound average 85,000. A seeding rate of 10 - 12 pounds pure live seed (PLS) per acre in 36 inch rows for seed production is sufficient. Rates for pasture seeding should be 15 to 20 PLS pounds per acre. Seed should be planted 1/4 to 1/2 inch deep in a firm relatively weed free seedbed. Seedling vigor is good and stands are comparatively easy to establish where competition is controlled. Mowing above the height of the virginia wild rye has been used to reduce competition when weeds begin to severely encroach into the planting.

Available chemical sprays for use in the establishment of virginia wild rye are limited. Post-emergence broadleaf sprays have been used during virginia wild rye establishment.

Seed yields are good and can be harvested with a combine. Yields of 300 - 400 pounds per acre (bulk) have been commonly harvested on well managed stands.

Plants are relatively self-fertile but some crossing occasionally takes place.

Site Description:

Virginia wild rye grows principally on moist soils in open woodlands and along drainageways that overflow occasionally. It does well on light-textured soil that has good internal drainage.

Eighteen (18) Collections from eight (8) counties were made from the following locations (see attached) and included in the composite of virginia wild rye, northern Missouri origin (9079044). The number of collections from each zone in northern Missouri guarantees the adaptation of releases to the entire zone.

Climate: The average annual temperature is 50 degrees Fahrenheit. July is the warmest month with an average high of 88 degrees and low of 67 degrees. January is the coldest month with an average high of 37 degrees and low of 11 degrees. The average annual precipitation for this region is 33 inches with much of this coming during the growing season. The average frost-free growing period runs from April 20 to October 10.

Availability of Plant Materials:

Breeders material is being produced in limited supply by the NRCS Plant Materials Center, Elsberry, Missouri.

Release Approved By:

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Missouri State Conservationist

/s/ Robert McGraw, UMC Date: 6/21/99
Professor of Agriculture

/s/ Stacy Armstrong, MODOT Date: 7/12/99
Roadside Management Supervisor

/s/ Larry Mechlin, MDC Date: 6/2/99
Research Biologist

/s/ Richard S. White
for: Diane Gelburd Date: 8/10/99
Director, Ecological Sciences Division
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References

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