



United States Department of Agriculture

A Conservation Plant Released by the Natural Resources Conservation Service  
Elsberry Plant Materials Center, Elsberry, Missouri

## Cuivre River Germplasm Virginia wildrye

### *Elymus virginicus*, L.

Cuivre River Germplasm Virginia wildrye (*Elymus virginicus*, L.) is a selected class conservation plant released in 2002 in cooperation with the Missouri Department of Conservation.

#### Description

Virginia wildrye is a native cool-season perennial bunchgrass that grows to an average height of three feet. Leaves are generally smooth to scabrous and vary from 5 to 14 inches long and 0.5 inches wide. The flower spikes are robust and upright and have straight awns up to 1.5 inches long. Each spikelet contains two to three flowers. Virginia wildrye begins flowering in May. Empty scales (glumes) are lance-shaped and approximately one inch long.

#### Source

Cuivre River Germplasm was collected from a shady island and bottomland along the Mississippi River, about 50 miles north of St. Louis, Missouri in eastern Lincoln County.

#### Conservation Uses

Cuivre River Germplasm is recommended as a companion species for forage production and erosion control. It is suited for single or multiple species mixes for conservation buffers, wildlife food and cover, plant diversity in wetland and riparian plantings, and as a cover crop for establishment of woody plants.

#### Area of Adaptation

Cuivre River Germplasm is adapted to Major Land Resource Areas (MLRA) 103, 104, 107, 108, 109, 112, 113, 115, 116A and 116B (northern Iowa to northern Arkansas). Virginia wildrye is classified as a facultative wetland and occurs in low woods, valley bottoms and alluvial wooded streambanks. It can also occur in other habitats such as prairie, open fields, rocky exposures on bluffs, wooded limestone ledges, and rocky limestone glades. Virginia wildrye is shade tolerant, but produces vigorous growth when exposed to full sun.

#### Establishment and Management for Conservation Plantings

Plantings should be done in late summer through early fall at 12 PLS (pure live seed) lb/ac based on 20 PLS/ft<sup>2</sup> for conservation cover to 24 PLS lb/ac based on 40 PLS/ft<sup>2</sup> for critical area and pasture plantings. For seed mixes, adjust the rate according to the desired percentage of Cuivre River Germplasm in the mix. Seed should be planted approximately ¼ to ½ inch deep. A clean, firm, and weed free seedbed, with adequate soil moisture, is essential to achieve a good stand. Cuivre River Germplasm can be seeded with a native grass or conventional grain drill. A less preferred method of planting is broadcasting seeding on a prepared seedbed. If seed are broadcast planted, cultipacking or a light drag is needed to cover seed and to ensure good seed-to-soil contact. On average, there are 73,000 seed per pound.

Fertilization is not recommended the initial year of planting unless the soil test indicates a severe deficiency in



Cuivre River Germplasm planted on a wetland berm in Lincoln County, Missouri.

soil nutrients. Nitrogen should not be used until the grass is fully established. Apply fertilizer at 30-50 pounds of actual N-P-K per acre. A soil test is still recommended to provide the best guide on actual fertilization.

Remove dead plant material in the spring by mowing to a height of 8-10 inches to allow for faster green-up. Using a prescribed burn before the plant has broken dormancy is an excellent way to remove previous year's residue. For weed control options, consult with your local agricultural cooperative extension service for assistance with recommendations on herbicides and application rates.

### **Ecological Considerations**

Seed heads can become heavily infested with ergot which causes toxicity problems in livestock. The ergot (*Claviceps purpurea*) may be a problem if this grass is not harvested before seed head development. This fungus infects the grass and forms a black mass that replaces the ovary of the grass flower and becomes several times larger than the fruit. Do not let plants go to seed if harvesting for hay or pasture because of ergot development.

### **Seed and Plant Production**

Seeding rate for seed production is 24 PLS lb/ac. Production fields are generally drilled in 6-10 inch rows. Cuivre River Germplasm Virginia wildrye is a heavy seed producer with yields of 600 bulk lb/ac the second full growing season and with yields exceeding 1000 lb/ac in the third year. For combine harvesters, adjust concave clearance between  $\frac{3}{4}$  - 1 inch spacing, cylinder speed of 1100 rpm, air flow on the lowest setting or no air flow, and open the chaffer sieve approximately  $\frac{1}{8}$  -  $\frac{1}{4}$  open. Seed should be stored between 40-50° F with a relative humidity between 35-50% to maintain long-term viability. Because of hybridization issues of Virginia wildrye, all commercial seed fields of Cuivre River Germplasm must be isolated from other cultivated varieties and wild populations of Virginia wildrye by a minimum of 1000 feet.

### **Availability**

For conservation use: Breeder seed is available to growers from the USDA-NRCS Elsberry Plant Materials Center. Cuivre River Germplasm is identified by USDA NRCS as accession number 9083169.

### **Citation**

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*For more information, contact:*

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