

## Cuivre River Germplasm Virginia Wildrye

*Elymus virginicus* L., Virginia wildrye is a native cool season perennial bunchgrass that can tolerate shade; however, in full sun this selection called Cuivre River Virginia wildrye produces early vigorous growth and a fibrous root system for valuable cover as a single species planting or as part of a multiple species planting.

The Cuivre River selection was collected from a shady island and bottomland along the Mississippi River 50 miles north of St. Louis, Missouri in Eastern Lincoln County. This selection can tolerate periodic flooding and is suitable for lowland plantings and adaptable to various soil types.

The USDA Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture and the Missouri Department of Conservation (MDC) have announced the 2002 selected release of Cuivre River Virginia wildrye (*Elymus virginicus* L.) for use in midwestern states.

## Description

Virginia wildrye is a native cool-season perennial bunchgrass that grows to a height of three feet. Rough to the touch, the leaves are generally smooth to scabrous and vary from 12 to 35cm long and are up to 1.5cm wide. The flower spikes are robust and upright and have straight awns; 0.3 to 4cm long. Each spikelet contains two to three flowers. Virginia wildrye begins flowering in May. Empty scales (glumes) are lance-shaped and up to 2.5cm long.

### Seedheads of Cuivre River Germplasm Virginia Wildrye

Photo by Don Kurz

Virginia wildrye will begin growth late winter or early spring with warming temperatures; however during the summer, Virginia wildrye will mature and go dormant.

## Adaptation

Virginia wildrye is a facultative wetland plant (FACW-). It is commonly found in low woods, valley bottoms and alluvial wooded banks of streams, and other habitats, such as prairie, open fields, rocky exposures on bluffs, wooded limestone ledges, and rocky limestone glades.

## Evaluation and Performance

From 2002—2006, 42 field plantings were conducted with 20 in Missouri, 13 in Illinois and 9 in Iowa. The survival in Missouri and Illinois was 80% for the field plantings with vigor rating from fair to good. The survival in Iowa was 100% for the field plantings with a vigor rating from good to excellent. The typical soils tested were silt loam and silty clay loams. The sandy soils tested resulted in lower survival percentage for Missouri and Illinois.



Cattle Grazing Cuivre River Virginia Wildrye

## Native Area of Documented Adaptation for Virginia Wildrye



## Area of Intended Use for Cuivre River Germplasm Virginia Wildrye

The potential uses of Cuivre River Germplasm Virginia wildrye include a companion species for forage production and erosion control. Single or multi-species mix for buffers, filters, vegetative buffers, wildlife food and cover, plant diversity in wetland and riparian plantings, and a cover crop for woody plantings.

## Establishment

Prepare a clean, weed-free seedbed by disking and harrowing or using chemical weed control. Firm the seedbed by cultipacking. Seedbed should be firm enough to allow seed to be planted 1/4 inch deep to a maximum of 1/2 inch deep. Seeding with a Brillion type seeder that has a brush roller in the seedbox will disperse the seed. Broadcasting with a hand seeder will not allow the seed to be dispersed because of the long awn attached to the seed, unless seed has been debarbed. For no-till plantings, use a no-till grass drill with double disc openers, depth bands, packer wheels, seed agitators with a mechanism capable of handling and applying seed at a uniform depth of 1/4 inch to a maximum of 1/2 inch. The optimum seeding time for Cuivre River Germplasm Virginia Wildrye is in the late summer/fall, but can be seeded in spring or winter dormant season.

Fertilizer can be used the establishment year, as this early cool-season grass will respond to a complete fertilizer program. Use 500-1,000 pounds of 12-12-12/acre or 120 pounds of actual N-P-K/acre. There are 73,000 seeds per pound of Virginia wildrye.

### Seeding Rate (Conservation Use)

Seeding rates for Virginia wildrye for a solid stand single species range from 12 PLS pounds per acre based on 20 PLS/sq foot for conservation cover to 24 PLS pounds per acre based on 40 PLS/sq foot for critical area and pasture plantings. For most applications wildrye can be planted in a mix species type planting by reducing the seeding rate by percent of mix, lbs/acre or by number of pure live seeds/square foot.

### Seeding Rate (Seed Production)

Seeding rate for seed production is 40 PLS per square foot or 24 pounds PLS per acre. 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 pounds per acre the second full growing season. The third year of production can have yields as much as 1,300 bulk pounds per acre when managed for seed production.

### Management

Remove dead plant material in the spring by shredding for faster green-up. Burning of straw will weaken the plant unless done before it has broken dormancy. For broadleaf weed control, usage of a post emergence broadleaf herbicide can provide control and will encourage a good stand. Graze or clip for hay or pasture in the spring before boot stage. Do not let it go to seed if using it for hay or pasture because of ergot development. Clippings at the Elsberry Plant Materials Center for the end of April was 28 % Crude Protein, ADF 26%, and NDF 47%. Clippings for June 1 were 12 % Crude Protein, ADF 34%, and NDF 60%. Booting of the seed occurred at the end of May and first week of June at Elsberry.

### Availability

Foundation seed is being produced in limited supply by the Elsberry Plant Materials Center.



Photo by Don Kurz

### For More Information

Visit our Plant Materials website at <http://Plant-Materials.nrcs.usda.gov> to find more information on solving conservation problems using plants.

USDA-NRCS

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**An Improved  
Conservation Plant  
Developed by  
Elsberry  
Plant Materials Center  
Elsberry, Missouri**