

## USDA-Natural Resources Conservation Service

### Notice of Source Identified Plant Release

#### Big bluestem

The USDA-Natural Resources Conservation Service (NRCS), Elsberry Plant Materials Center, 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 big bluestem, *Andropogon gerardii* Vitman.

The big bluestem has been assigned the NRCS accession number 9079000.

**Origin:** Counties north of the Missouri River.

#### **Ecotype Description:**

Big bluestem is a tall, warm-season, perennial, native grass with stiff, erect culms; flattened and keeled sheaths; membranous ligules; and flat or folded leaf blades. Big bluestem has developed a very efficient spreading root system which may reach depths of 5-8 feet (150-200 cm.) in northern latitudes, and 6-8 feet (180-240cm.) or more in the Southern part of its natural range. Although short rhizomes may be present, it usually makes a bunch type growth. Big bluestem is composed of many ecotypes with a wide range of adaptation to soil and climate. Big bluestem is one of the most widespread and important forage grasses of the North American tallgrass prairie region. It is usually associated with one or more of the other three dominant species, indiangrass, (*Sorghastrum nutans* (L) Nash.), switchgrass, (*Panicum virgatum* L.), and little bluestem (*Schizachyrium scoparium* (Michx.) Nash.). Big bluestem occurs on subirrigated lowlands, nearly level to gently undulating glacial till plains, overflow sites, level swales and depressions, residual and glacial uplands, and stream terraces and bottomlands along rivers and tributaries. The abundant, leafy forage is palatable to all classes of livestock.

#### **Management:**

Big bluestem seeds per pound averages 165,000. A seeding rate of ten to twelve pounds Pure Live Seed (PLS) per acre for pasture and hay is sufficient. A seeding rate of 3.5 pounds per acre (PLS) in 36 inch rows is sufficient for seed production (40 PLS per linear foot). 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 big bluestem has been used to reduce competition when seeds begin to severely encroach into the planting.

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

Seed yields are good and can be harvested with a combine. Yields of 250 to 300 (PLS) per acre have been commonly harvested on well-managed stands.

Plants are cross-pollinated and many hybrids are formed in the area of adaptation.

For isolation requirements, big bluestem should be spaced a minimum of 1000 feet from any other different big bluestem selection.

**Site Description:**

Big bluestem is adapted to most upland and some bottomland soils. Ecotypes are adapted to areas with as little as 14 inches to over 50 inches of average annual precipitation. The number of collections from northern Missouri counties guarantee the adaptation of releases to the entire section of northern Missouri.

Twenty-nine collections of big bluestem from fourteen northern Missouri Counties were collected and formed the composite 9079000.

**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 30 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 by the Plant Materials Center, Elsberry, Missouri.

**Release Approved By:**

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Roger A. Hansen, NRCS  
Missouri State Conservationist  
Date: 5/28/99

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

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

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

/s/ Richard S. White  
for: Diane Gelburd  
Director, Ecological Sciences Division  
United States Department of Agriculture  
Natural Resources Conservation Service  
Washington, DC  
Date: 8/10/99

## References

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