

# USDA-NATURAL RESOURCES CONSERVATION SERVICE

## NOTICE OF SOURCE IDENTIFIED PLANT RELEASE

### BIG BLUESTEM

The USDA-Natural Resources Conservation Service (NRCS), Elsberry Plant Materials Center in cooperation with the Booneville Plant Materials Center announce the release of a Source Identified (OH 370) Germplasm of big bluestem, *Andropogon gerardii* Vitman.

The big bluestem has been assigned the NRCS accession number 9062323.

#### **Origin:**

Southern Missouri, Northern Arkansas, Eastern Oklahoma, and Southern Illinois.

#### **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 (180-240 cm.) 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.

Big bluestem seeds per pound average 165,000. A seeding rate of ten (10) pounds Pure Live Seed (PLS) per acre for pasture and hay is sufficient. A seeding rate of 4.2 pounds per acre (PLS) in 30 inch rows is sufficient for seed production (40 PLS per linear foot). Seed should be planed 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.

Collections of big bluestem from Southern Missouri, Northern Arkansas, Eastern Oklahoma and Southern Illinois prevent positive assessment of all pollination or chromosome characteristics. 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 900 feet from any other big bluestem selection.

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 (370) from Southern Missouri, Northern Arkansas, Eastern Oklahoma and Southern Illinois guarantee the adaptation of releases to the entire southern portion of the state of Missouri and the northern part of Arkansas.

**Site Description:**

This bluestem composite was collected from 370 sites in Southern Missouri, Northern Arkansas, Eastern Oklahoma and Southern Illinois. Soils at individual sites varied from sandy to clayey, and shallow and rocky, to deep.

**Climate:**

The average annual temperature is 55 degrees Fahrenheit. August is the warmest month with an average high of 86 degrees and low of 73 degrees. January is the coldest month with an average high of 46 degrees and low of 10 degrees. The average annual precipitation for this region is 45 inches with much of this coming during the growing season. The average frost-free growing period runs from April 3 to October 31.

**Availability of Plant Materials:**

Breeders material is being produced by the Plant Materials Center, Elsberry, Missouri and the Booneville Plant Materials Center at Booneville, Arkansas.

**Release Approved By:**

Roger A. Hansen, Missouri State Conservationist, NRCS

Kalven L. Trice, Arkansas State Conservationist, NRCS

**References:**

Gray's Manual of Botany, p. 232; Fernald; M. L.; Harvard University, Boston, Mass., 1950.

Flora of Missouri; p. 932; Steyermark, J. A.; Iowa State University Press, Ames, Iowa, 1968.

Manual of the Grasses of the United States; pp. 749, 751, and 812; United States Department of Agriculture, Washington, DC, 1951.

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