

USDA-NATURAL RESOURCES CONSERVATION SERVICE
NOTICE OF SOURCE IDENTIFIED PLANT RELEASE
BIG BLUESTEM

The USDA-Natural Resources Conservation Service (NRCS), the University of Northern Iowa (UNI), the Iowa County Integrated Roadside Vegetation Management Program (IIRVMP), the Iowa Department of Transportation (IDOT), and the Iowa Crop Improvement Association (ICIA) announce the release of source identified (Central Iowa) germplasm of big bluestem, *Andropogon gerardii* Vitman.

The big bluestem has been assigned the NRCS accession number 9068615.

Origin: Central Iowa Counties

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.

Management:

Big bluestem seeds per pound averages 165,000. A seeding rate of ten pounds Pure Live Seed (PLS) per acre for pasture and hay is sufficient. A seeding rate of 3.5 pounds PLS per acre 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 weeds 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.

For isolation requirements, big bluestem should be spaced a minimum of 900 - 1,000 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 (four) from central Iowa counties guarantee the adaptation of releases to the entire section of central Iowa.

This bluestem composite (9068615) was collected from 40 sites in central Iowa.

Collections of big bluestem from central Iowa counties prevent positive assessment of all pollination or chromosome characteristics. Plants are cross-pollinated and many hybrids are formed in the area of adaptation.

Climate:

The average annual temperature is 48 degrees Fahrenheit. July is the warmest month with an average high of 85 degrees and low of 64 degrees. January is the coldest month with an average high of 27 degrees and low of 8 degrees. The average annual precipitation for this region is 30 inches with much of this coming during the growing season. The average frost-free growing period runs from April 30 to October 6.

Availability of Plant Materials:

Breeders material is being produced by the Plant Materials Center, Elsberry, Missouri. Source identified seed will be released to interested commercial seed growers.

Release Approved By:

- Roger A. Hansen, Chairman, PM Advisory Committee, NRCS
Missouri State Conservationist.....Date: 7/27/98
- Robert D. Koob, President, UNI Date: 8/17/98
- Daryl D. Smith, Program Director, IRVM.....Date: 8/25/98
- Leroy Brown, Iowa State Conservationist, NRCS.....Date: 8/31/98
- Robert E. Lawson, Secretary/Treasurer, ICIA Date: 8/27/98
- Steve Holland, Representative, IDOT Date: 8/25/98

References

Prairie Plants of Illinois; pp. 38-39; Voigt, John W. and Mohlenbrock, Robert H.; Both from Southern Illinois University, Edwardsville, Illinois.

The Prairie Garden, 70 Native Plants You Can Grow in Town or County; pp. 176-177, Smith, J. Robert and Smith, Beatrice S., University of Wisconsin Press, Madison, Wisconsin 1980.

Wildflowers of the Tallgrass Prairie, The Upper Midwest, p. 249; Runkel, Sylvan T. and Roosa, Dean M., Iowa State University Press, Ames, Iowa 1989.

Flora of Missouri; p. 246; Steyermark, Julian A., Iowa State University Press, Ames, Iowa 1963.

Grass Yearbook of Agriculture; pp. 651-653; United States Department of Agriculture; U. S. Government Printing Office, Washington, DC 1948.

The Grasses of Missouri; pp. 211, 213-214; Kucera, L. Clair, University of Missouri Press, Columbia, MO 1961.

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