

# Suther Germplasm Big Bluestem (*Andropogon gerardii*) Vitman

A Conservation Plant Released by the USDA NRCS Cape May Plant Materials Center, Cape May, NJ



*Suther Germplasm big bluestem (Andropogon gerardii Vitman) is source-identified germplasm released by the Cape May Plant Materials Center in 2002. Photo by, C.M.Sheahan, USDA NRCS.*

## Description

Suther Germplasm big bluestem (*Andropogon gerardii* Vitman) is a native, perennial, warm-season bunchgrass that grows from the Great Plains to the Atlantic Coast. It is a 6–8 ft tall, sod-forming, tufted bunchgrass with scaly rhizomes. Blades grow along a robust, jointed, waxy blue stem. The blades are smooth below and rough above and along sides, often with long soft hairs towards base. The seed head flowers from July to October and is composed of three spikelets that resemble a turkey's foot. The bract at the base of the grass spikelet is furrowed lengthwise and the awn is tightly twisted.

## Source

Suther Germplasm big bluestem is source-identified germplasm that originated from the piedmont of Cabarrus County, North Carolina. The undisturbed site was considered a remnant, eastern U.S. native prairie system.

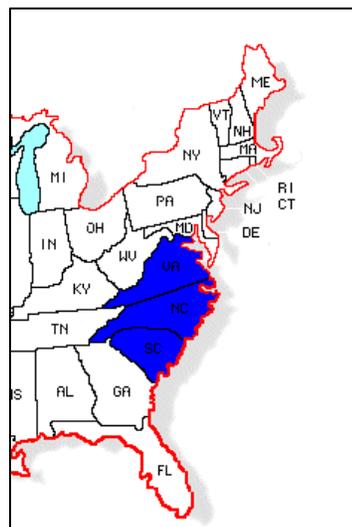
This germplasm was collected from a wet prairie in the floodplain of the Dutch Buffalo Creek, 27 miles Northeast of Charlotte, NC; at approximately 680 ft above sea level.

## Conservation Uses

Big bluestem is an important component in tall grass native prairies. It can be used for USDA conservation programs that establish and maintain permanent vegetative cover, critical area plantings, contour buffer strips, field borders, filter strips, forage and biomass planting, prescribed grazing, vegetative barriers to reduce sheet and rill erosion, food and cover for wildlife, and in native restoration projects to increase species diversity. Big bluestem can provide hay and forage to all classes of livestock, but is considered a decreaser. Its forage rates good to excellent if plants are utilized in the leafy stage and before seed head emergence. There is moderate and growing interest in using big bluestem as a biofuel.

## Area of Adaptation and Use

The area of adaptation has not yet been determined. Big bluestem can be grown throughout the United States from Maine to North Florida, from the Atlantic Coast west to the northern and southern Great Plains. The particular genotypic selection Suther Germplasm has been collected from the North Carolina piedmont, so is best suited for use in the North and South Carolina and Virginia Mid-Atlantic region specifically. This region corresponds to USDA Plant Hardiness Zone 7b.



*Map of Suther Germplasm big bluestem area of adaption and recommended area of use.*

## Establishment and Management for Conservation Plantings

Big bluestem should be seeded into a well-prepared, weed-free, seedbed as early in the spring as possible or as a dormant seeding in late fall or winter. Seed will not germinate until soil temperature rises above 50 F. Seed can be drilled with conventional or no-till drills. If a no-till drill is used, sod should be controlled in fall to permit early spring planting. Seed in the coulters furrows should be fully covered to avoid seed exposure and drying. Seed should be drilled at 6–8 lb PLS (pure live seed) acre. Debearded seed should be used with conventional drills. If non-debearded seed is used, the drill should have a chaffy seed box. When broadcasting, use 10 lb/ac. on a firm seedbed, and roll with a packer. Seeding depth is ¼ to ½ inch.

If needed, fertilization can be used moderately as determined by a soil test, however, fertilization will also increase weed competition. Amendments may be applied prior to, during, or after seeding. Nitrogen should only be applied after green growth has begun in the second growing season. Lime is recommended during site preparation if soil pH is below 5.5.

## Ecological Considerations

This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, state natural resource, or state agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at <http://plants.usda.gov>. Please consult the Related Web Sites on the Plant Profile for this species for further information.

## Seed and Plant Production

Suther big bluestem reproduces only by seeds and will resprout and produce seed after being cut. It will produce moderate (less than one thousand) viable seeds per plant for each reproductive cycle. Seed can be dispersed over 20 feet but it will produce few plants. Seed can remain viable in the soil for 2–3 years. It produced approximately 150 lb/ac of cleaned seed at the Cape May Plant Materials Center, NJ from 2010 to 2012. Suther Germplasm continues to test at 4% germination. Outcrossed Suther Germplasm reached approximately 6% germ in one North Carolina study (Tompkins et al. 2011). Viable seed

production is generally low. There are approximately 165,000 seeds/lb.

## Availability

*For conservation use:* For sources of supply for Suther Germplasm big bluestem or for more information on the availability, planting and use, contact your local NRCS office or Soil and Water Conservation District.

*For seed or plant increase:* Suther Germplasm big bluestem is an eastern US source-identified release. NRCS maintains foundation stock at the Cape May Plant Materials Center in Cape May Court House, NJ. It is now available from most commercial nurseries in the Northeastern United States and other parts of the US.

*For more information, contact:*

USDA-NRCS

Cape May Plant Materials Center

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<http://plant-materials.nrcs.usda.gov/njpmc/>

## Citation

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

## References

Tompkins, R. D., W.C. Stringer, and W.C. Bridges Jr. 2011. An outcrossing reciprocity study between remnant big bluestem (*Andropogon gerardii*) populations in the Carolinas. *Ecol. Rest.* 29:4. p. 339–345. doi: 10.3368/er.29.4.339

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