UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
KNOX CITY, TEXAS

# NOTICE OF RELEASE OF COTTLE COUNTY GERMPLASM SAND BLUESTEM SELECTED CLASS OF NATURAL GERMPLASM

The U.S. Department of Agriculture, Natural Resources Conservation Service, Knox City Plant Materials Center announces the release of a selected ecotype of sand bluestem, *Andropogon hallii* Hack.

As a selected release this plant will be referred to as Cottle County Germplasm sand bluestem. It has been assigned the NRCS accession number 9031498. Cottle County Germplasm is released as a selected class of certified seed.

This alternative release procedure is justified because there are presently no commercial varieties of sand bluestem adapted for use in west and north central Texas, primarily on the southern Great Plains and Rolling Plains.

**Collection Site Information:** Cottle County Germplasm was originally collected in 1982 from native plants located along US Highway 62/70 in western Cottle County approximately 14 miles west of Paducah, TX (N. Lat. 34°, W Long 100° 30'). Elevation at the collection site is approximately 1900 feet; the soil at the collection site is classified as a Miles fine sandy loam, 5 to 12 percent slope. Average precipitation for the area is around 24 inches. Other plants growing in association included sand dropseed, little bluestem, switchgrass and yellow Indiangrass. The collection site is located in MLRA 78B - Rolling Plains, Western Part.

**Description:** Cottle County Germplasm sand bluestem, *Andropogon hallii,* a native, perennial, warm-season, long-lived bunchgrass. Sand bluestem is widely distributed throughout the western US from North Dakota over to eastern Montana and south to Texas. Cottle County Germplasm resembles big bluestem but has creeping rhizomes. Leaf blades are long, flat and strongly ribbed. Leaf sheath overlap and are keeled at the base, stems are flat at the base and will have a pale purplish color during early growth. The seed head is a pared raceme with a distinctive ring of hair at the base. Sand bluestem has a deep fibrous root system. Cottle County Germplasm like other native bluestems takes two years to establish and produce seed. Sand bluestem will occurs with big bluestem on tighter soils but sand bluestem is usually the predominate species on sandier soils especially deep sand sites.

**Method of Breeding and/or Selection:** Cottle County Germplasm was initially evaluation against 43 other accessions from 1983-85. In 1986, 6 selections were identified and placed under advanced evaluation. In 1991 Cottle County Germplasm was selected as the top accession based on survivability, vigor and overall plant performance. Cottle County Germplasm met the selection criteria of finding a southern later maturing ecotype for the southern Great Plains and Rolling Plains. In 1991 Cottle County Germplasm was placed in a forage clipping study along with two other varieties of sand bluestem (Elida and Woodward). Clipping studies show Cottle County Germplasm to have similar crude protein, ADF and NDF levels as the other released varieties. See attachment 1(pages 4-5) for, Initial Evaluation Summary, Summary of Forage Quality Clipping Study, and Seed Yields.

**Environmental Impact Assessment:** Cottle County Germplasm sand bluestem is a selection of naturally occurring germplasm and has been unaltered from its original collection. Cottle County Germplasm did not meet the assessment of a plant that would become invasive based on literature review and the attached "Invasive Species Worksheet" (see attachment 2, pages 6-13).

**Conservation Use:** Cottle County Germplasm may be used in pure stands for pasture and hay plantings or as a component in seed mixtures for range seeding. Its forage value is fair to good while young and tender. After heads mature, forage is fair for cattle and horses. As with all native range grasses it must be managed accordingly to avoid overgrazing. Wildlife can utilize the plants and seed for food. The plants provide good ground nesting cover for quail. Cottle County Germplasm maybe utilized for filterstrips, field borders, contour buffer strips, and erosion control plantings on sandy soils.

**Anticipated Area of Adaptation:** Cottle County Germplasm sand bluestem is adapted in MLRAs 78A,B,C,D, 77A,B,C,D, 80A,B, 81A,B, and 42 in Texas and Oklahoma. This perennial grass is widely distributed and grows well on sandy textured soils. Cottle County Germplasm is not adapted to saline and wet bottomlands.

**Availability of Plant Materials:** Generation 0 seed (equivalent to Breeder seed) will be maintained by the USDA-NRCS Plant Materials Center at Knox City, Texas. Field production seed is available through the Texas Foundation Seed Service to interested parties for increase purposes.

**References:**

Gould, F. W., The Grasses of Texas. TAMU Press, College Station 1975.

USDA-SCS, 1971, 100 Native Forage Grasses in 11 Southern States, Ag Handbook No. 139.

**Prepared by:**

USDA-NRCS, Plant Materials Center, 3776 FM 1292, Knox City, TX 79529, 940-658-3922.

---

**Signatures for release of:**

**Cottle County Germplasm sand bluestem (*Andropogon hallii* )**

Tomas M. Dominguez

Name

10/16/02

Date

Tomas M. Dominguez, Acting State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Temple, Texas

Richard S White

Name

10/2/02

Date

for Director, Ecological Sciences Division
United States Department of Agriculture
Natural Resources Conservation Service
Washington, D.C.