Falfurrias Germplasm
big sacaton

*Sporobolus wrightii* Munro ex Scribn.

Falfurrias Germplasm big sacaton (*Sporobolus wrightii* Munro ex Scribn.) was released by the USDA NRCS E. “Kika” de la Garza Plant Materials Center in 1998. It is a selected plant material class of certified seed.

**Description**
Big sacaton is a native, warm-season perennial grass that forms dense clumps. It is a coarse, upright bunchgrass that can grow from 3 to 8 feet tall. The scabrous leaves are about ½ inch wide tapering to a point and can grow up to 5 feet long. The pale flowers of big sacaton form in stiff, upright clusters 1 to 2 feet long. The plants produce seed from May through October in south Texas.

**Source**
Falfurrias Germplasm big sacaton was originally collected from a single population on a ranch in Brooks County near Falfurrias, Texas. It was chosen from a comparison with nine other collections because of its ability to produce abundant forage, especially on droughty, alkaline, and saline sites and its ability to produce nutritious, green forage throughout the winter months in south Texas.

**Conservation Uses**
Big sacaton may be used in pure stands or as part of a rangeland seeding mix for livestock forage and wildlife cover on highly alkaline soils. Because of the plant’s stature, it shows good competitive ability with many introduced, exotic grasses. The plant is useful for revegetating saline soils throughout the Southwest and is a beneficial plant for erosion control, conservation practices such as vegetative barriers or herbaceous wind barriers. Big sacaton is an effective plant for stabilizing watershed structures and flood plain areas.

**Area of Adaptation and Use**
Big sacaton grows primarily on heavier textured, clay soils in lowland or wetland sites. It is tolerant of highly alkaline and saline soil, and can tolerate poorly drained soils and seasonally flooded areas. The plant is also found on open areas such as rocky slopes, plateaus, and mesas of west Texas.

Falfurrias Germplasm has performed well at locations in the Rio Grande Plain (MLRA 83A, B, C and D), Coastal Sand Plain (MLRA 83E), Gulf Coast Prairies and Marshes (MLRA 150A) and the Edwards Plateau (MLRA 81) and Trans Pecos (MLRA 42) ecoregions of Texas.

**Establishment and Management for Conservation Plantings**
Begin seedbed preparation well in advance of planting. Plant Falfurrias Germplasm in early fall (August) in south Texas. Establish a clean, weed-free seedbed by either tillage or herbicides. Prior to planting, the site should be firm and have accumulated soil moisture. Big sacaton can be seeded using a grass drill with a small seed box. Broadcast seeding may be used in areas not easily planted with a drill, but additional practices to encourage good seed to soil contact, such as cultipacking and harrowing, may be necessary after planting. Sand can be mixed with seed to aid in distribution. Plant seed about ¼ of an inch deep. Due to the small seed size of the seed, it is better to plant too shallow than too deep. For calibration purposes, Falfurrias Germplasm big sacaton contains approximately 2,000,000 seeds per bulk pound. A seeding rate of 0.5-1 pounds pure live seed (PLS) per acre is recommended. In planting mixtures, reduce the rate according to the percent of big sacaton desired in the seed mixture.
Plants can also be grown in small containers and then transplanted for establishment of vegetative barriers or herbaceous wind barriers. Establishment is highly dependent on good rainfall or irrigation. Do not graze areas planted to Falfurrias Germplasm for 1 year after planting to allow adequate rootstock development. Allowed plants to produce seed annually to ensure stand health. Big sacaton is a long-lived perennial that is extremely drought and fire tolerant once established.

**Ecological Considerations**

No severe insect or disease problems have been observed in big sacaton once established. Cold tolerance of this germplasm beyond the area of intended use is unknown. Falfurrias Germplasm is a composite of naturally occurring germplasm and no breeding, selection or genetic manipulation was used in the development of this release.

**Seed and Plant Production**

In a biomass study which compared five switchgrass ecotypes, one miscanthus and big sacaton at Kingsville, Texas in 2011, the highest yielding entry was Falfurrias Germplasm big sacaton producing 8.5 tons/acre. ‘Alamo’ switchgrass, the second highest yielding entry, had 8 tons/acre. No additional data was taken until January 14, 2014. At that time, the only surviving plants were Alamo switchgrass and Falfurrias Germplasm. The other species had died due to the extreme drought conditions in 2011 and 2012. The historical average annual precipitation in Kingsville is 26 inches. The annual precipitation in 2010 was 49.2 inches, but in 2011 and 2012 the precipitation was 10.5 inches and 18 inches respectively. Despite the previous year’s drought conditions, Falfurrias Germplasm had a 58% survival rate and produced 2 tons/acre in January 2014. Alamo had a 10% survival rate and produced <100 lb/acre. Rainfall in 2013 was 24 inches.

Big sacaton has produced as much as 400 lb/acre of clean seed but averages around 150 lb/acre. Maximum seed yields and ease of harvesting is attained when rows are established at six-foot intervals. Seed production of Falfurrias Germplasm is best started using greenhouse grown transplants, planted on bedded rows. Rapid spread and growth have been observed in transplant established stands providing seed harvests by the second year and sometimes as quick as the first year. Transplants facilitate better weed control in the seed production fields. Falfurrias Germplasm can produce multiple seed crops per year when grown in south Texas. The quantity and quality of seed harvests vary greatly depending on location and field conditions, but it usually is around 90% PLS. Seed is usually harvested with a small grain combine. In well managed irrigated fields, 2-3 harvests can be expected per year. The first harvest is typically made in early May with the last harvest occurring in October. Seed is cleaned with an air-screen cleaner.

**Availability**

*For conservation use:*
Seed is available from native seed dealers in south Texas. Seed of Falfurrias Germplasm big sacaton is identified by PI-434453.

*For seed or plant increase:* First generation (G0) seed is produced and maintained by the E. “Kika” de la Garza Plant Materials Center. All commercial seed fields of Falfurrias Germplasm must be isolated from other cultivated varieties and wild populations of *Sporobolus wrightii*. G1 and G2 seed fields have a 7-year production limit, after which time, fields must be replanted using the appropriate seed generation (G0 or G1).

**Citation**


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]

For more information, contact:

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