



NRCS Species for Plant Collections

Panicum virgatum

Scientific Name: *Panicum virgatum*

Common Name: Switchgrass



Images: James E. "Bud" Smith Plant Materials Center Knox City, TX

Morphological Characteristics:

- Warm season perennial sod-forming (upland) bunchgrass (lowland) grass that grows 3 to 10 feet tall that is native to all of US except California and the Pacific Northwest
- Found in all of Knox City PMC's service area
- Stems are erect 3 to 10 ft tall, robust, with short rhizomes; stems firm and tough
- The rhizomes are scaly and creeping
- Sheaths are rounded, often red to purplish at base; blades are 10-24 inches long and 1/8 to 9/16 wide, flat, elongate, adaxial surface at the blade base with a triangular patch of hair
- Distinguished from other warm-season grasses by the hair at the point where the leaf attaches to the stem at all stages of development.
- Ciliate membrane 1/32-5/32 inch long, apex truncate to rounded
- Panicle is 6-24 inches long, pyramid-shaped, open with seed borne on the tips of the branches; lower nodes with branches in whorls
- Spiklets have 2 florets, the lower florets are sterile or staminate, the upper florets perfect and fertile; the upper lemma 1/8-3/16 in long, and are smooth and shiny, the margins clasp the palea
- The glumes are unequal, acute to acuminate, the first glume is 3/4th the length of the second and encircles the base of the second glume
- The glumes, lemmas, and paleas are awnless
- Starts growth in March and April and seed mature late August through October, the flowering and seed maturity is different on the same panicle.
- Ripe seeds sometimes take on a pink or dull-purple tinge, and turn golden brown in the fall
- Reproduces from seed, rhizomes, and tillers
- Two major forms have developed, lowland and upland, upland types are generally shorter have more vigorous rhizomes making them more sod forming, upland have more cold tolerance, lowland are more sensitive to moisture stress; the Knox City PMC is interested in collecting both forms

Conservation Use:

Why collect this plant? Texas Plant Materials Centers have identified this plant as having potential benefits to the following conservation practice standards: 645 Upland Wildlife Habitat Management; 342 Critical Area Plantings; 550 Range Planting; 512 Pasture and Hay Planting. The planting of switchgrass can provide excellent food and cover benefits for wildlife and livestock as well as help conserve our soil. In our service area there is a need for a less aggressive switchgrass in mixes for wildlife habitat. Switchgrass could also be an important biofuel plant and a cooperative project with Oklahoma State University will screen these accessions for this purpose. The accessions will be gene mapped by OSU and possibly be used in developing cultivars for biofuel production. Your assistance in collecting this plant helps support this effort

and the NRCS conservation practice standards which are employed daily to conserve the natural resources of Texas.

Centers Requesting Seed:

USDA-NRCS/James E. "Bud" Smith Plant Materials Center – Knox City, Texas

USDA-NRCS E. "Kika" de la Garza Plant Materials Center- Kingsville, Texas *

(Collections for Kingsville PMC should come only from coastal counties in the PMC coverage area- Aransas, Austin, Brazoria, Calhoun, Chambers, Colorado, Ft. Bend, Galveston, Hardin, Harris, Jackson, Jasper, Jefferson, Kleberg, Lavaca, Liberty, Matagorda, Montgomery, Newton, Nueces, Orange, Polk, Refugio, San Jacinto, San Patricio, Tyler, Victoria, Waller, and Wharton)

How to Collect Seed:

1. Identify native plant stands in your area. You can go to the following websites for helpful photos <http://plants.usda.gov> or <http://www.noble.org/imagegallery/index.html> or www.wildflower.org
2. Determine if seed is mature. Mature seed is typically dry and will easily separate from the seed head.
3. Hand strip mature seed by grasping the bottom of the seed head then gently pulling away from the base of the plant. Deposit seed in a brown paper bag and not in a plastic bag, because moisture will collect and mold seeds. Collect seed from a minimum of 30 to 50 plants.
4. Label each collection as it is made so collections do not get mixed up. Information required includes: Collector's name, number of plants collected, location (parish, city, highway, and GPS coordinates), site description (soil type, slope, and plants growing in association).
5. Complete NRCS-ECS-580; Plant Collection Information Form and mail with collected seeds to the NRCS Plant Materials Center below.

USDA-NRCS James E. "Bud" Smith Plant Materials Center
3950 FM 1292 Suite 100
Knox City, TX 79529-2514

USDA-NRCS E. "Kika" de la Garza Plant Materials Center
3409 N FM 1355
Kingsville, TX 78363

Helpful Tips:

Look for superior plants that display differences in color, height, or forage abundance and record observations. Differences in growing site or location should be made into separate collections if they are separated by more than 1 mile between sites.

Other Photos:



Images: James E. "Bud" Smith Plant Materials Center Knox City, TX

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, Large print, audiotape, etc.) should contact USDA's Target Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider and employer.