



# 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 3/4<sup>th</sup> 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 in 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

### **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](http://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**

### **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**

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