switchgrass
Panicum virgatum, L.

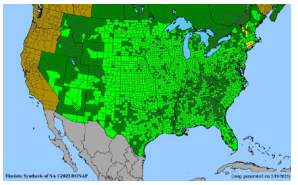
Alternate Common Name(s)
thatchgrass, Wobsqua grass, blackbent, tall panic grass, old switch panicgrass

Scientific Synonym(s)
Panicum virgatum var. spissum, Panicum virgatum var. cubense, Panicum bavardii

Functional Group
warm season grass

Family
grass family (Poaceae)

Description
- **Life cycle/growth form:** Warm season perennial, rhizomatous, forms clonal patches with many stems that expand over time.
- **Height:** 3-6 ft
- **Leaves and stem:** Leaf blades 5/16 in wide and 6-22 in long, often hairy on the upper surface, especially near the ligule, ligule is fringe of dense hairs about 1/8 in tall; stem erect and hairless.
- **Fruit/seed head:** Seedhead is an openly branched, airy panicle 8-16 in long with green to purple spikelets near the ends of the branches.
- **Pollination:** wind

Habitat and Range


Mesic to wet-mesic soil; full sun; prairies, savannas, streambanks, shorelines, dunes, woodland openings, roadsides, along railroads, ditches; may become abundant in disturbed prairies, much less common in high quality prairies. Wetland Indicator Status is Facultative (FAC) for the Midwest. Fertile, well-drained soils are preferred for seed production.

Conservation Status
Global- G5, secure; Nevada- S2, imperiled; Vermont and Wyoming- S3, vulnerable (NatureServe)

General Comments
A number of cultivars of switchgrass have been developed for forage and seed production, winter hardiness, and grazing tolerance by the USDA-NRCS Plant Materials program. These cultivars have been planted widely as monocultures and in early prairie reconstructions. Because seed has been commercially available at affordable prices for decades, it was usually seeded heavily and tended to dominate stands. For these reasons it has been considered aggressive. Switchgrass can form dense colonies on lowland prairies, but is usually uncommon on high-quality remnant upland prairies and tends to occur in isolated patches near disturbance activities such as gopher mounds (Weaver 1954). Switchgrass establishes readily from seed, and is relatively easy to harvest and clean.

Establishment for Seed Production (Appendix A)
Direct seeding:

Row spacing:	36 in	24 in	12 in	Solid Stand
PLS lbs/acre:	2.6	3.5	6.0	6.0

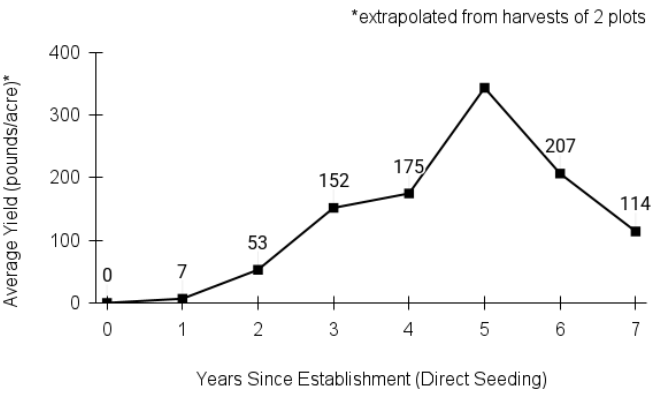
- **Seeding depth:** 1/4 in
- **Seeding method:** Native seed drill or broadcast seed and cultipack for solid stand.
- **Seeding time:** Spring
- **Weed control:** Prepare clean, firm, weed free seedbed prior to seeding.

Greenhouse:
- **Seed pre-treatment:** Moist stratify seed for 4 weeks to improve germination.
- **Sowing:** Sow seed in greenhouse two months before the last frost free date at 1/4 in depth.
- **Transplanting:** Transplant after all danger of frost into rows convenient for tillage equipment.

Stand Management
- **Weeds:** Mow stands high (6-12 in) first growing season to prevent weed canopy from shading seedlings. Broadleaf herbicides can be used to control broadleaf weeds in established stands. Switchgrass is atrazine resistant, and can be applied at the label rate at planting time. Read and follow label instructions.
- **Pests:** None noted.
- **Diseases:** Seed smut, if left unchecked, can seriously decrease seed yields on switchgrass. The smut is caused by a fungus, *Tilletia maclaganii*. Glumes may exhibit an uncharacteristic purple coloration, and seeds are replaced by fungal spores that are red-orange when immature turning dark brown at maturity. Fields may need to be destroyed or relocated if diseased (NRCS 2003).

Seed Production (Appendix B)
- **First harvest:** Flowering and seed set end of first growing season from greenhouse grown transplants, second growing season from direct seeding.
- **Yield:** 150-350 bulk pounds/acre (per acre yields extrapolated based on harvests of 2 plots)
- **Stand life:** Stands should persist 10-15 years or more. Good seed production second year and after.

- **Flowering date:** late July - early September in northern Iowa
- **Seed maturity/Harvest date:** September in northern Iowa
- **Seed retention:** Shattering begins in late September to early October
- **Harvest date range at TPC (2003-2010):** Sept 16 - Nov 2
- **Recommended harvest method:** Combine at hard dough stage before significant shattering has occurred.



Seed Cleaning Process (Appendix C)

Pre-clean air-dried material by scalping thru 1/2 in and 1/4 in mesh to remove large particles. Brush to remove all floral parts from the grain, air-screen to clean.

Seed Characteristics (Appendix D)

- **Seeds per ounce:** 14,000 seeds/oz (IA NRCS)
- **Seeds per pound:** 259,000 (IA NRCS)
- **1000 seed weight:** 1.30 g (Seed Information Database)
- **Description:** Spikelet is two-flowered, fertile floret uppermost, smooth. It has no awn. Grain is shiny, smooth, 3-4 mm (about 1/8 in) long.
- **Seed storage:** cool/dry (33-50° F, 30-50% RH)
- **Typical seed test:**
  PLS: 91% (n = 9)
  Purity: 97% (n = 9)
  Germination: 49% (n = 7)
  Dormancy: 44% (n = 7)
  (averages obtained from n tests of purchased seed lots)

Released Germplasm

- **Source Identified material:** Natural Selections/Iowa Ecotype Projects Zones 1 (northern Iowa), 2 (central Iowa), and 3 (southern Iowa)
- **Cultivated variety (cultivars):** Mid-west adapted include Blackwell (KS), Cave-In-Rock (IL), Dacotah, Forestburg (ND), Nebraska 28 (NE), Shawnee (MO)

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Species Updated: 12/05/2025

Notes