



big bluestem

Andropogon gerardii Vitman

Alternate Common Names

turkey foot, turkeyfoot

Scientific Synonyms

Andropogon chrysocomus Nash, *Andropogon furcatus* Muhl. ex Willd., *Andropogon provincialis* Lam., *Andropogon gerardii* Vitman var. *chrysocomus* (Nash) Fernald

Functional Group

warm season grasses

Family

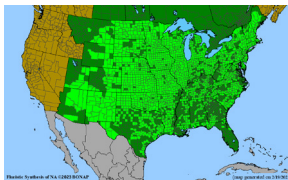
grass family (Poaceae)

Description

- » **Life cycle/growth form:** Perennial with short rhizomes and fibrous roots that forms large clumps, a bunchgrass.
- » **Height:** 2-8 ft
- » **Leaves and stem:** Leaves flat with a prominent midrib, 1-2 ft long and 1/4 in wide, often with long, unkempt, white hairs near leaf base and on lower sheath, ligule is a short, fringed membrane; flowering culms (stems) are erect and hairless, solid, often reddish to bluish purple in color with a waxy bloom, usually with a few branches near the top.
- » **Fruit/seed head:** Seed heads (panicles) consist of 2-6 spikelike racemes 1.5-4 in long at the tips of branches, containing both seed-bearing and sterile flowers; seed heads appear bristly when mature and shatter from the tops especially on dry, windy days.
- » **Pollination:** wind



Habitat and Range



Mesic to wet-mesic soil; full sun; prairies, savannas, roadsides, fens, glades. Wetland Indicator Status is Facultative (FAC) for the Midwest. Moist, loamy, deep, well-drained soils are preferred for seed production.

Conservation Status

Global- G5, secure; Wyoming- S3, vulnerable (NatureServe)

General Comments

Big bluestem is a dominant component of the tallgrass prairie ecosystem. This species establishes readily from direct seeding, particularly if seeded into crop ground where good weed control has been achieved (i.e. following a glyphosate-resistant crop, for example). It takes two to three years for the stand to develop, with good management and weed control.

Establishment for Seed Production (Appendix A)

Direct seeding:

- » **Row spacing:** 36 in 24 in 12 in solid stand
- » **PLS lbs/acre:** 3.6 4.8 9.7 10-12
- » **Seeding depth:** 1/4-1/2 in
- » **Seeding method:** native seed drill
- » **Seeding time:** mid to late spring
- » **Weed control:** Prepare clean, firm, weed free seedbed prior to seeding.

Greenhouse:

- » **Seed pre-treatment:** No stratification necessary. Germination of grass seed usually improves with proper storage (cool, dry conditions) throughout the first year after harvest.
- » **Sowing:** Sow seed in greenhouse 2 months before last frost free date at 1/4 in depth.
- » **Transplanting:** Transplant after all danger of frost.

Stand Management

- » **Weeds:** During establishment - mow the stand 6-12 in high during first growing season to prevent weed canopy from shading seedlings. Established stand - Atrazine, 2,4-D, Plateau (imazapic), Outlook (Dimethenamid-P).
- » **Pests:** Yellow midges may infest florets, reducing seed yields.
- » **Diseases:** Smut fungus affects florets.

Seed Production (Appendix B)

- » **First harvest:** Flowering and seed set end of second growing season from direct seeding, 3 years for stand to fill out.
- » **Yield:** 60-150 bulk pounds/acre (based on 3 solid stands with no supplemental nitrogen or irrigation; plots were not harvested every year)
- » **Stand life:** Peak harvests third year and after. If seed yields decline because stands are sod-bound, they can be chisel plowed to reinvigorate. Annual spring fire when green shoots are 2 in tall helps control weeds and increase flowering and seed production. (Note: This recommendation is strictly for production fields, not remnant prairies). Some producers use nitrogen application in spring to increase seed yield (60-100 pounds lb N/ac). Productive stand life 20 years or more.
- » **Flowering date:** early August - mid-September in northern Iowa
- » **Seed maturity/Harvest date:** October in northern Iowa
- » **Seed retention:** Shattering begins mid to late October.
- » **Harvest date range at TPC (2003-2022):** Sept 12 - Nov 2
- » **Recommended harvest method:** Combine at medium to hard dough stage, when some shattering is just beginning to occur on the very top of the main panicles.

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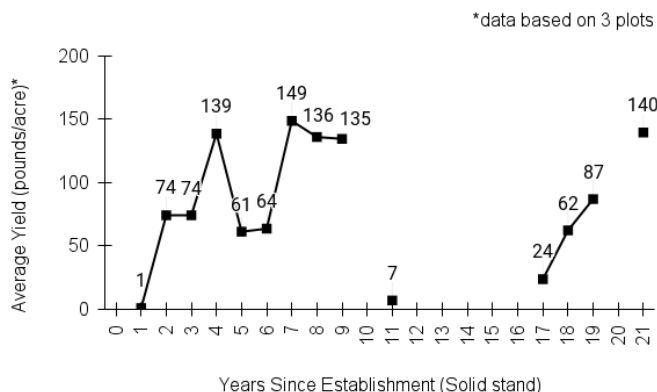
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Species Updated: 2/3/2025

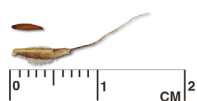
Notes



Seed Cleaning Process (Appendix C)

Air-dry material, remove awns with debearder or brush machine, then air-screen.

Seed Characteristics (Appendix D)



- » **Seeds per ounce:** 10,000 (IA NRCS)
- » **Seeds per pound:** 160,000 (IA NRCS)
- » **1000 seed weight:** 2.14 g (Seed Information Database)
- » **Description:** Fertile spikelet with long awn, 1-2 cm long (1/2-3/4

in), attached stalk(s) are covered with hairs prior to debearding. Caryopsis smooth brown, 3-5 mm long.

» **Seed storage:** cool/dry (33-50° F, 30-50% RH)

» **Typical seed test:**

PLS: 85%

Purity: 89%

Germination: 39%

Dormant: 56%

(averages obtained from 11 tests of purchased seed lots)

Released Germplasm

- » **Source Identified material:** Central (Zone 2), Northern (Zone 1), and Southern (Zone 3) Iowa Germplasm (IA), Northern Missouri Germplasm (MO), OH 370 Germplasm (OH), Southlow Michigan Germplasm (MI), Suther Germplasm (NC)
- » **Selected germplasm:** Bounty Germplasm (MN,SD), Hampton Germplasm (MO), OZ-70 Germplasm (AR, IL, MO, OK), Prairie View Indiana Germplasm (IN), Refuge Germplasm (AR, IL, MO, OK)
- » **Cultivated variety (cultivar):** Bison (ND), Bonilla (SD), Earl (TX), Kaw (KS), Niagara (NY), Rountree (IA), Sunnyview (SD)

References

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