

## CANE BLUESTEM

*Bothriochloa barbinodis* [Lag.] Herter  
plant symbol = BOBA3

Contributed by:  
USDA-NRCS Tucson Plant Materials Center

### Alternate Names

cane beardgrass  
feather bluestem  
plains beardgrass  
pinhole bluestem

### Key Web Sites

Extensive information about this species is linked to the Plants web site. To access this information, go to the Plants web site, select this plant, and utilize the links at the bottom of the Plants Profile for this species.

### Uses

*Livestock and Wildlife:* Cane bluestem is consumed by all classes of livestock. It is considered to be good forage for wildlife and livestock. It is most palatable in the spring and summer before the stems become mature.

*Rehabilitation of Disturbed Sites:* Cane bluestem is ideal for seeding arid southwestern landscapes. It is best suited for plantings on silty or clayey soils.

*Xeriscaping:* Cane bluestem is suitable for naturalizing or as an informal border.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened

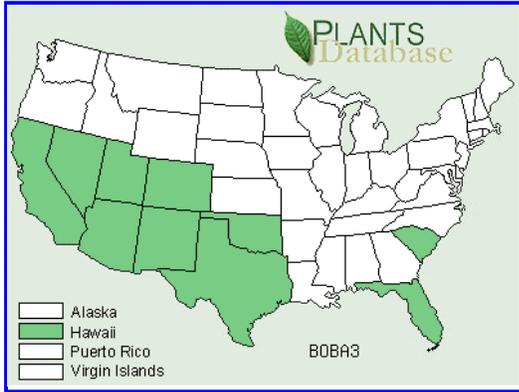


or endangered species, state noxious status, and wetland indicator values).

### Description

*General:* Cane bluestem is a caespitose perennial, warm season bunchgrass. Culms erect or geniculate at the base, tending to become decumbent and much-branched below with age, mostly 60-120 cm tall; culm nodes bearded with hairs mostly 1-3 mm long (occasionally longer), these typically erect and not widely spreading; leaves essentially glabrous except for few to numerous long hairs on upper sheath margins and in vicinity of ligule; ligule 1-2 mm long, becoming erose and lacerate; blades firm, linear, 2-7 mm broad, often 25-30 cm or more long but the upper culm blades greatly reduced; panicles mostly 7-13 cm long, often partially included in upper sheath, with a straight main axis and numerous primary branches mostly 4-9 cm long, these erect or loosely spreading at tips, the basal ones moderately rebranched; internodes of the panicle branches and pedicels more or less densely villous on the thickened margins, with a broad, membranous central region; sessile spikelet 4.5-7.3 mm long excluding the awn; first glume usually sparsely hairy below the middle; lemma awn 20-30 mm or more long, geniculate and twisted. Chromosome number  $2n=180$  (Gould 1975).

*Distribution:*



*Habitat:* Cane bluestem is most commonly found in semidesert grasslands, oak woodlands, chaparral, pinyon-juniper woodlands, and shortgrass plains, where it usually occurs as scattered plants or in small groups (Judd 1962; Welsh et al 1987). It is a common grass in many Arizona chaparral communities (Carmichael 1978). In oak woodlands of Arizona, it is often an understory codominant with sideoats grama (*Bouteloua curtipendula*), hairy grama (*Bouteloua hirsuta*), threeawn (*Aristida* spp.), and plains lovegrass (*Eragrostis intermedia*).

**Adaptation**

Cane bluestem can be found growing on open, sandy or gravelly ground and rocky slopes. This species produces best in areas receiving 12-16 inches of rainfall annually.



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**Establishment**

*Planting Depth, Rate and Time:* Properly prepare the planting site and seedbed then drill, broadcast or hydroseed into firm soil at a depth of 0.25-0.75 inches. Heavier textured soils will require a more shallow planting depth. Dragging or other suitable method to obtain appropriate soil cover should cover broadcast seed. Plant as a component 5-20% of a seed mix. Seed should be planted at the following rates:

Purpose (Land Use)	Seeding Method and Row Spacing	lbs/acre (PLS) <sup>1</sup>
Soil Erosion Control (Disturbed Lands)	Drill, 6-12" row spacing	0.07-0.29 *
Soil Erosion Control (Disturbed Lands)	Broadcast	0.14-0.58**

\*Based on 25 seeds/ft<sup>2</sup> and cane bluestem representing 5-20% of a mix.

\*\*Based on 50 seeds/ft<sup>2</sup> and cane bluestem representing 5-20% of a mix.

If cane bluestem is not to be planted as part of a seeding mix, the drill seeding rate is 1.4 PLS pounds per acre; the broadcast seeding rate is 2.8 PLS pounds per acre.

For optimum stand establishment, seed should be planted during late July through early August. Mulching and/or supplemental irrigation may be required to assure establishment on disturbed sites. Seeding may be conducted earlier if irrigation can be supplied.

*Seed Cleaning and Quality:*

Cane bluestem is may be harvested using a Flail-Vac type harvester (200-250 rpm brush speed). Conditioning following harvest consists of using a Westrup Brush Machine with a #12 screen (mantle) at a brush speed of 10. The resulting material is then processed using a dual air screen separator using a #9 top screen and a 45x45-bottom

<sup>1</sup> Calculation Example: 5% of a mix based on 25 seeds/ft<sup>2</sup> = 1.25 seeds/ft<sup>2</sup>; 1.25 seeds/ft<sup>2</sup> x 43,560 = 54,450 seeds/acre; 54,450 seeds/acre ÷ 754,000 estimated seeds per pound = 0.07 lbs/acre

screen. There are approximately 754,000 (estimated) seeds per pound.

*Germination and Seedling Characteristics*  
Optimum germination results when temperatures remain above 80 °F. Evidence of seed dormancy characteristics have not been noted. Growth requirements indicate a pH range of 7-8.2 for optimum plant performance.

### **Management**

Mature cane bluestem plants are considered to be of low to medium palatability for livestock. Cane bluestem is most palatable to livestock during the spring and early summer before the stems fully mature and become fibrous (Buechner 1950; Gould 1978; Humphrey 1970). Cattle and horses may utilize this grass more than sheep, and it may be an important local food source for pronghorn sheep (Buechner 1950; Judd 1962).

Cane bluestem is an indicator of good range conditions. It is one of the first grasses to disappear from overgrazed rangeland. Cane bluestem is listed as a decreaser species by numerous authors (Canfield 1948, 1957; Judd 1962). However, Bernardon and others (1967) observed under greenhouse conditions that clipping up to 60% of herbage at any stage during the first year of seedling development was not detrimental to subsequent root and herbage production.

### **Pests and Potential Problems**

Under natural conditions no pest problems have been identified. When grown for seed production thrips can reduce yield.

### **Cultivars, Improved, and Selected Materials (and area of origin)**

#### *Saltillo origin*

Cane bluestem, released in 2001 by the USDA-NRCS Tucson Plant Materials Center in cooperation with the Agricultural Research Service and the University of Arizona Agricultural Experiment Station. This release was selected for its superior vigor and biomass production.

#### *Grant Germplasm*

This germplasm was released in 2001 by the USDA-NRCS New Mexico Plant Materials Center and New Mexico State University Agricultural Science Center at Los Lunas. It was selected for forage yield and adaptation to higher altitudes.

### **Control**

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA, NRCS does not guarantee or warranty the products and control methods named and other products may be equally effective.

### **References**

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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