USDA United States Department of Agriculture

Illinois Grazing Manual Fact Sheet

SPECIES • WARM-SEASON GRASS

Big Bluestem

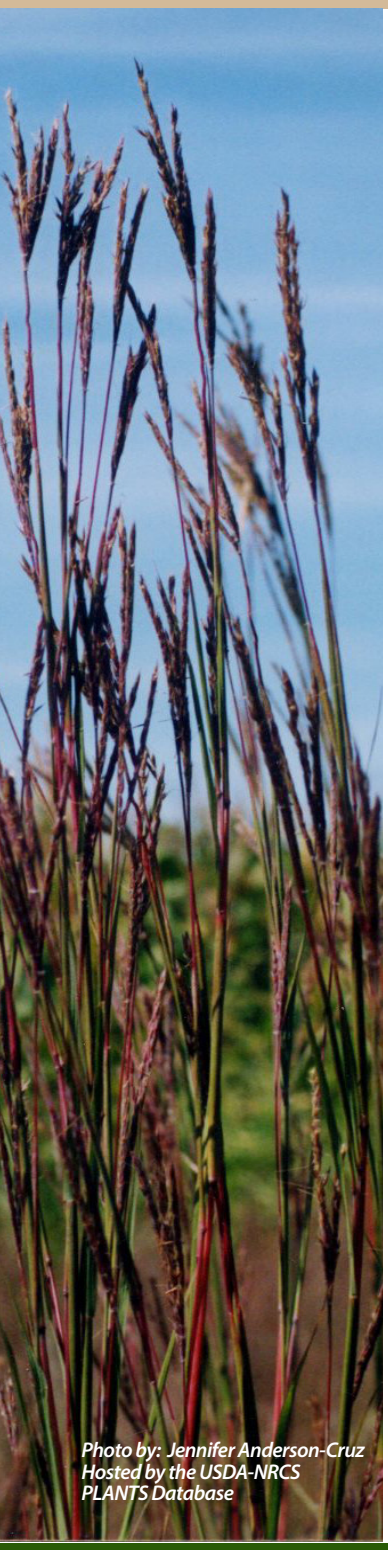

Photo by: Jennifer Anderson-Cruz Hosted by the USDA-NRCS PLANTS Database

General Use

Big Bluestem is one of the native, warm-season bunchgrasses noted for rapid growth during mid-to-late summer when high temperatures slow the growth of cool-season grasses. The primary use of big bluestem is as a livestock forage seeded in pure stands or in mixtures. Big Bluestem produces excellent hay and cover for soil erosion control and is not rated as highly as switch grass or Indian grass for wildlife cover. Snow on mature Big Bluestem can cause severe lodging and loss of winter protective cover.

Characteristics

Big Bluestem produces a deep, extensive, fibrous root system and short rhizomes, and begins growth somewhat later than switch grass, usually in late April or early May. Big Bluestem's growth increases rapidly with higher temperatures and produces about 70 percent of its annual growth after June 15. The average date of seed maturity is September 9. If undisturbed, Big Bluestem attains a height of four to six feet and establishes a very deep root system. Big Bluestem plants can be distinguished from other warm-season grasses, even when plants are young, by the long white hairs on the stem and upper leaf near the base of the leaf. The stem is round, and the base has a reddish tint. The seed head normally has three, fingerlike branches shaped like a turkey's foot.

Adaptability

Big Bluestem is winter hardy, will grow in all areas of Illinois, and is suited to all soils, except those saturated for an extended period. Deep, well-drained soils are preferred. One variety of Big Bluestem recommended for use in Illinois is 'Rountree,' released for public use by the Natural Resources Conservation Service's Elsberry (Mo.) Plant Materials Center.

Establishment

Spring seedings - during April and May - of big bluestem are preferred and should be seeded into firm seedbeds free of competition. Seedbeds should be finished with a roller prior to drilling or broadcasting seed. If the seed is planted using the broadcast method, roll afterward to ensure good seed soil contact. Seed that is drilled should be planted one-fourth inch deep. Check with Natural Resources Conservation Service or University Extension for current seeding recommendations.

No-till seedings in closely grazed sod have also been successful where control of sod is accomplished with proper herbicides. In addition, early spring plantings (March and April) and fall dormant plantings (November and December) have been successful and can provide weed and soil erosion control.

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Special rangeland drills capable of seeding light, fluffy seed must be used to plant unprocessed big bluestem seed. Seed processed by removing the appendages with a 'debearder' may be planted with a wide variety of commonly used grass seeding equipment.

Controlling weeds at seeding time is important because grass establishment and survival can be suppressed by weed competition for moisture and sunlight.

Fertilizer applied during the seeding year usually does not increase stand density but will increase plant vigor. To limit weed growth, nitrogen should not be applied until mid-July, and then only on stands with limited seed competition. Not more than 30 pounds of nitrogen per acre should be applied.

Stand densities of 1.5 to 2 established plants per square foot in the spring of the second year is adequate for hay yields or pasture.

Management

Annual fertilizer application of 60 pounds nitrogen and 30 pounds each of phosphorus and potassium per acre usually is adequate for maximum yields. Rates should be adjusted in accordance with soil tests.

Weeds in established stands of Big Bluestem can be minimized by maintaining plant vigor relative to an overgrazed stand. Burning plant residues at initiation of spring growth decreases competition and stimulates Big Bluestem growth.

Big Bluestem may be grazed when it reaches a height of 14 to 16 inches and can be grazed continuously as long as a minimum height of eight to 12 inches is maintained. In management intensive systems, grazing in the first paddock can begin when plants reach 10" in height, to prevent over maturity of the last paddocks grazed. A minimum of 6" of residual should remain at the end of the grazing period. The subsequent rest period should be long enough to allow for the accumulation of 14-16" of regrowth before being grazed again.

Of the three most common warm-season grasses, Big Bluestem matures later than Switch grass and earlier than Indian grass and is an excellent forage from mid to late summer. A fall height of 12 inches should be attained before frost. Big Bluestem may be grazed to a height of six to eight inches after frost. The winter stubble is necessary to provide insulation.

To obtain maximum hay quality and quantity, hay cuttings should be made when big bluestem is at boot stage, in mid-to-late July.

Where to Get Help

For more information about big bluestem, contact the local Natural Resources Conservation Service listed in the telephone directory under "U.S. Government," or the University of Illinois Cooperative Extension Service.

USDA United States Department of Agriculture
Natural Resources Conservation Service

University of Illinois Extension
College of Agriculture, Consumer and Environmental Sciences

Illinois Department of Agriculture

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Illinois Grassland Conservation Initiative