BIG BLUESTEM

Andropogon gerardii Vitman

Plant Symbol = ANGE

Contributed by: USDA NRCS National Plant Data Center

J. Anderson 2002
USDA-NRCS PLANTS Database

Alternate Names
Bluejoint beardgrass, poptillo gigante, turkeyfoot, *Andropogon chrysocomus, Andropogon furcatus, Andropogon gerardii* var. *chrysocomus, Andropogon hallii* var. *grandiflorus, Andropogon provincialis, Andropogon tennesseensis, Sorghum provinciale*.

Uses
Conservation: Big bluestem is the dominant grass species of the Midwestern tallgrass prairie. It is mixed with other native prairie species for prairie restoration and highway revegetation. While it does best in moist soils, it can be used for mine reclamation, logging road restoration and other restoration areas that have sandy or droughty conditions.

Erosion control: Big bluestem is planted to stabilize soil. Rhizomes are typically 1 to 2 inches below the soil surface, while the main roots can extend downward to 10 feet.

Big bluestem is also planted to provide aboveground protection against wind erosion. It is used for road cuts, pipelines, detention basin slopes, and areas that need temporary cover during the restoration process.

Ethnobotanic: Chippewa Indians used the root of big bluestem as a diuretic and to alleviate stomach pains. Extracts of the leaf blades were used as a wash for fevers or as an analgesic. The plants were also used to fasten the support poles of dwellings. Moist grass was laid on hot stones to prevent steam from escaping during cooking. It was also used to cover fruit during ripening and under fruit while drying.

Forage: Big bluestem is a high quality forage species for all classes of livestock. Crude protein content of 16-18% is maintained from May through August but drops below 6% in September and October. It is often cultivated as a pasture grass and for hay-making.

Landscaping: Big bluestem is used in wildflower meadows and prairie plantings. It is also effective as a rear border or accent in native plant gardens.

Wildlife: Big bluestem provides shelter for nesting birds and insects. Songbirds and prairie chickens consume the seeds while white-tailed deer and bison graze vegetative parts.

Legal Status
Please consult the PLANTS Web site (http://plants.usda.gov) 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).

Weediness
This plant is invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, or state natural resource or agriculture department regarding its status and use.

Description
General: Grass Family (Poaceae). Big bluestem is a perennial warm-season grass. It can be distinguished from other warm-season grasses by blue coloration at the base of the culm and purplish, 3-parted flower clusters that resemble a turkey's foot. The culms are erect, up to 3 m tall, stout, and are usually covered with a blue-tinted waxy layer. Leaf blades are flat,

15-60 cm long, 0.5-1 cm wide, smooth below and rough above. The inflorescence is typically composed of three spike-like racemes, but can have as many as seven. The racemes bear paired spikelets that are about 1 cm long. Flowering takes place July through October. The foliage changes color seasonally, and culms stay erect through the winter.

Distribution: Big bluestem is native to the United States. It occurs in southern Canada, from Maine to Montana, south to Florida and New Mexico and into Mexico. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site (http://plants.usda.gov).

Habitat: Big bluestem is found in open woods, prairies, meadows, along riverbanks, and roadsides. It is especially abundant in lowland prairies, overflow sites, and sandy areas.

Adaptation
The USDA hardiness zones for big bluestem are 4 to 9. It is best adapted to moist, sandy or clay loams but also occurs in dry or shallow soils. It does well in full sun or partial shade. Prairie conditions, like low nutrient and moisture content, have conditioned big bluestem for use in well-drained soil with low fertility. It is not tolerant of heavy clays, extremely wet bottomlands, deep sands, high salinity, or high lime.

Big bluestem is generally shorter in the northern portion of its range, and taller in the southern portion of its range. It is a rhizomatous, sod-forming grass in the tallgrass prairie and has a bunchgrass appearance in more arid regions.

Establishment
Collect big bluestem seeds when the seed head no longer has a creamy center, usually in September and October. Dry seeds in paper bags for 2 to 4 weeks. Seeds can be stored up to 7 months at 50°F and 50% humidity. Cold stratification (40°F, 35% humidity) may improve germination uniformity. Fill germination trays or pots with moist soil, compacted at bottom. Sow seeds by hand, covering with a thin layer of soil. Keep soil evenly moist during germination and do not use fertilizer.

Greenhouse establishment will occur at alternating day/night temperatures (set at 75/65°F) and 12-14 daylight hours (may be extended artificially). Transplant seedlings into plug cells. Soil does not need to be consistently moist at this stage. In early to late spring, move plugs to cold frame. Seedlings are ready for outplanting when the plant and soil can be completely pulled from the pot as one unit. Outplanting can take place from late May to early October.

Seeds can be sown directly outside from late winter to early spring. Emergence will occur in 4 weeks with several irrigations. Plants will be ready for harvest in mid-summer to late fall.

First-season growth is often slow. Rhizomatic regeneration in following years increases the growth rate.

Management
Underground rhizomes resprout following fire disturbance. Regeneration is slow if fire occurs during the summer (active growth stage). Regeneration following springtime fire is much more vigorous because the rhizomes have winter-stores of carbohydrates.

Big bluestem can withstand substantial grazing. However if it is continually grazed closer than 6 to 8 inches, it will be out competed by other grass species. It is highly palatable to livestock during spring and summer and becomes coarse and less palatable during the fall and winter. Hay should be mowed in early to mid-summer to maintain high nutrition quality.

Cultivars, Improved, and Selected Materials (and area of origin)
NRCS Plants Materials Program (PMC) has released several cultivars of big bluestem. The Bismarck, ND PMC released 'Bison' for its adaptation to northern climates. It is used for erosion control, upland game bird cover and nesting, nature trails, rural beautification and other native plantings. The Knox City, TX PMC released ‘Eldorado’ and ‘Earl’ cultivars for their forage potential. Other cultivars include ‘Kaw’ (Manhattan, KS), ‘Niagara’ (Big Flats, NY), and ‘Rountree’ (Elsberry, MO).

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.

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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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