

BROOMSEDGE BLUESTEM ANDROPOGON VIRGINICUS L.

Plant Symbol = ANVI2

Contributed by: USDA NRCS East Texas Plant Materials Center



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Alternate Names

broomsedge, yellowsedge bluestem, Virginia bluestem, whiskey grass

Uses

Livestock: Broomsedge bluestem is not considered important cattle forage. It provides grazing in spring and early summer. However, nutritional quality and palatability quickly decrease as the summer progresses.

Wildlife: Small birds utilize the seed in winter when other food supplies are limited. Broomsedge bluestem provides cover for ground nesting birds such as quail and turkeys.

It is a larval host for the Zabulon Skipper butterfly (*Poanes zabulon*).

Ornamental: Broomsedge bluestem is used as an ornamental plant. It is recommended for golf courses and residential landscaping because it requires low amounts of water. In the fall, the foliage turns a reddish orange and retains this color during winter dormancy, thereby adding color to the winter landscape.

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).

Description and Adaptation

Broomsedge bluestem is a native warm season perennial bunchgrass that grows 2 to 4 feet tall. The leaves are flat to partly folded 10 to 15 inches long and approximately 1/8 inch wide. The fringed ligule is 1/16 inch long. The flattened basal leaf sheaths are colorless or yellow. The rest of the plant is a pale greenish yellow. Broomsedge bluestem produces many seeds on the upper half of the plant that are distributed by the wind. At a distance the inflorescence may appear silvery in the sunlight.

Broomsedge bluestem grows where average rainfall is greater than 25 inches. It is found throughout the eastern portion of the United States. The grass is found in open areas such as abandoned fields, overgrazed pastures, cut-over timber sites, and rights of way. Broomsedge grows on a wide variety of soils, preferring loose, sandy, moist sites with low fertility and is an indicator of low phosphorus soils. It also is a shallow rooted plant.

Distribution: Please consult the Plant Profile page for this species on the PLANTS Web site.

Establishment

Broomsedge bluestem can be established by direct seeding or transplanting. Direct seeding is the preferred method of establishing a broomsedge bluestem stand. Prepare a firm, weed free seedbed by disking and cultipacking. The site may be prepared by treating the planting area in the spring with a nonselective herbicide such as glyphosate to kill existing vegetation then using a no-till type drill to plant.

The best time to plant broomsedge bluestem seeds is in the spring when soil temperature is at least 55°F or greater. The seed should be planted no more than 1/4 inch

deep. Broomsedge bluestem seeds germinate well and readily begin growing on exposed soil. Two methods for planting the seed are drilling and broadcast planting. A drill is the preferred method due to proper seed placement and spacing. The drill should be capable of planting light, fluffy seed at a planting rate of 8 pounds of pure live seed (PLS) per acre. When broadcast planting the seed, increase the planting rate to 12 PLS per acre. It will be necessary to add a carrier material to the broomsedge bluestem seed when broadcast planting is done. Carriers include rice hulls, sand, or sawdust. Without an accompanying carrier material, the broomsedge bluestem seed will not flow well through the broadcaster and be unevenly distributed in the field. After broadcast planting, run a cultipacker or roller over the planting to ensure seed to soil contact.

Broomsedge seedlings grow quickly. In a North Carolina study, first-year seedlings averaged five inches in height. One and two year old plants averaged 40 inches in height and 3 inches in basal circumference (Keever, 1950). Seed production begins when plants reach two to three years of age.

Transplants of broomsedge bluestem are best used for small areas and high visibility sites. Transplants are usually more costly than direct seeding. Professional installations may cost between \$1.00 per square foot for small plants and up to \$10.00 per square foot for gallon pots. To produce transplants, divide larger plant crowns into smaller plants. Divide plant crowns so that each small plant includes healthy, viable stems. The best time for transplanting is in the spring. Dig a hole just large enough to accommodate plant roots without bunching, and then fill in around the plant with soil. After planting, water the transplants so they will have adequate moisture and the soil will settle around the roots. Prevent weed seed germination by applying a pre-emergent herbicide or mulch, after planting.

Management

Native grasses grow slowly and require two to three years to fully establish. Mowing is an effective method for controlling weeds. Mow above the tops of the broomsedge bluestem to reduce weed competition. Mowing only the tops keeps from covering up the small grass seedlings.

Weeds can also be controlled by selective herbicides. Imazapic herbicides will control broadleaf weeds and is labeled for use on most warm season grasses. Apply imazapic herbicides in the spring using a boom sprayer after the broadleaf weeds have begun growing.

In certain situations, broomsedge bluestem is considered a pasture weed. It increases in plant numbers as more desirable vegetation is selectively grazed by livestock. If left uncontrolled, broomsedge bluestem can become the dominant grass in abused, overgrazed range and pastures.

Avoid overgrazing of desirable grasses by managing the number of animals, the duration of their grazing, and amount of herbage that is removed from the pasture. Do not rely on calendar days to determine the number of days for animals to graze a pasture, instead schedule grazing based on plant growth of key species and available forage. If warm season grasses are the desirable species, remove grazing animals when the grasses have 6 to 8 inches of stubble height remaining. Contact your local USDA-NRCS field office for assistance in planning a prescribed grazing plan.

Vegetative growth of broomsedge bluestem begins in early spring. To reduce the amount of broomsedge bluestem in a pasture, heavily graze it in early spring when the grass is most palatable and then defer grazing for 60 to 90 days. Increase the soil fertility by adding nitrogen, phosphorus, and potassium based upon soil tests and fertilizer recommendations. Fertilizing the desirable species will help them compete successfully with the broomsedge.

Pests and Potential Problems

On infertile soils, broomsedge is a long-lived competitor. Broomsedge bluestem has allelopathic chemicals which adversely affected other plants (Rice, 1972).

Environmental Concerns

Broomsedge bluestem was inadvertently introduced to the Hawaiian Islands in 1932. It is considered noxious there because it invades native Hawaiian plant communities and alters the fire and hydrology regimes (Diggs, et al., 2006).

Control

By itself, prescribed burning has little detrimental effect on broomsedge bluestem and is not an effective means of control. The aboveground biomass is removed; in response, the plant quickly begins new vegetative growth after a burn. However, the new vegetative growth can be treated with herbicides.

Glyphosate herbicides are an effective chemicals to use for control of broomsedge bluestem. Glyphosate herbicides are non-selective. Broadcast spraying of a glyphosate herbicide will result in killing both broomsedge bluestem and desirable vegetation. Therefore, broadcast spraying is not recommended for established stands of desirable vegetation. If a complete canopy kill is the objective, apply the herbicide using a boom sprayer. Apply the herbicide when the plants are actively growing. A follow-up application may be needed.

Selective application of glyphosate, such as wicking or spot treatment is recommended in established pastures. When using a wick, raise it above the desired vegetation and sweep the top of the broomsedge bluestem. If the treatment site is smaller with isolated broomsedge

colonies, a backpack sprayer is a feasible option to apply herbicide. Make herbicide applications when the broomsedge bluestem plants are actively growing.

For all chemical control methods, always read and follow label and safety instructions. Consult your extension weed specialist or county agent for recommended herbicides. 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.

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

Currently, the cultivar ‘Silver Beauty’ is commercially available. Locally harvested material may be available from local seed dealers.

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References:

Diggs, G.M., B. Lipscomb, M. Reed, et al. 2006. Illustrated Flora of East Texas Vol.1. Botanical Research Institute of Texas, Fort Worth, Texas.

Keever, C. 1950. Causes of succession on old fields of the Piedmont, North Carolina. Ecological Monographs. 20 (3):229-250.

Rice, E.L. 1972. Allelopathic effects of *Andropogon virginicus* and its persistence in old fields. Amer. J. Bot. 59:752-755.

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