United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

'Aldous' little bluestem

Schizachyrium scoparium (Michx.) Nash

A Conservation Plant Release by USDA NRCS Manhattan Plant Materials Center, Manhattan, Kansas

Figure 1. Aldous little bluestem plant in summer prior to flowering. Photo by Alan Shadow, ETPMC, Nacogdoches, TX.

'Aldous' little bluestem (*Schizachyrium scoparium*) is a cultivar released in 1966 with the cooperation of the Kansas Agricultural Experiment Station (KAES) and the Agricultural Research Service (ARS).

Description

Little bluestem is a native, perennial, mid-grass that has a dense root system that may reach 5 to 6 feet in depth. This bunchgrass is one of the most widely distributed perennial grasses in North American and has natural stands in the U.S.A., Canada, and Mexico. Little bluestem can be identified by its flat, blueish-colored basal shoots and its leaf blades that tend to fold. The inflorescences are solitary racemes with paired sessile and pedicelled spikelets. The lemma of the sessile spikelet is awned (.5 inches) and the awn is bent and twisted. Little bluestem begins growth in the early spring and matures in the fall with seed maturing in late September or early October.

Source

Aldous is a composite of the progeny of accessions collected in the native Flint Hills Prairie south of Manhattan, Kansas in 1935. The variety named after A.E. Aldous is tall, leafy, vigorous, medium-late in maturity, and much more uniform than field collected lines.

Conservation Uses

Livestock: Forage value of little bluestem is fair to good while young and tender, but becomes course after seed maturity. Little bluestem can produce up to two tons of dry matter forage per acre of land.

Conservation: Due to its unusually high tolerance to drought and its ability to survive on shallow, well drained soil sites this species is important in erosion control situations. Some scientists have suggested since little bluestem is broadly adapted in North American and can prosper on dry, course soils it may be a candidate for biomass for bio-energy sources in areas not suited for other more water inefficient plants.

Ethnobotany: The Kiowa-Apaches used bundles of little bluestem as switches in the sweat lodges. They believed that switching of arms, neck, and shoulders would cure aches and pains and drive away evil spirits.

Wildlife: Little bluestem is an important food for the caterpillars of the prairie or ottoe skippers, swarthy skippers, cobweb skippers, as well as other skippers.

Area of Adaptation and Use

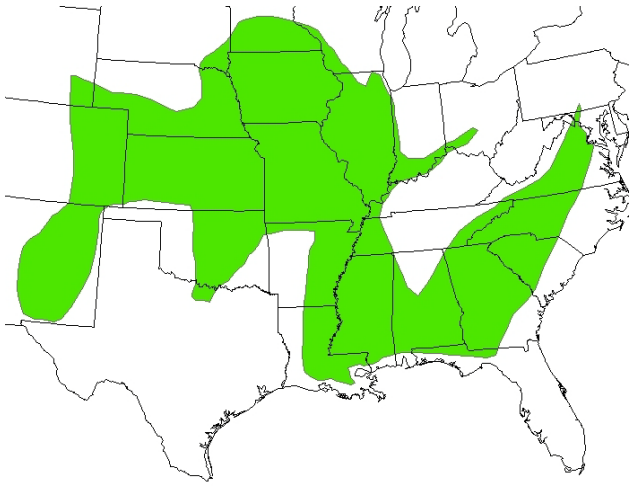

Figure 2. Aldous little bluestem area of adaptation map.

Establishment and Management for Conservation Plantings

Little bluestem has approximately 255,000 seed units per pound of seed. For commercial seed production plantings a typical planting rate of 30 Pure Live Seeds (PLS) per linear foot of row in 36 inch wide rows would require 1.7 PLS pounds per acre. Field preparation should include a weed free, firmly packed surface and the ability to consistently deliver seed units at a depth of .25 to .5 inches below the soils surface. Broadcast plantings of

little bluestem should supply 30 PLS seeds per square foot of area covered. A roller packer could be used after planting to press seed units into the firmly packed soil to increase seed to soil contact. A broadcast seeding rate of 5.0 PLS pounds per acre would provide a solid stand planting of little bluestem.

Ecological Considerations
Little bluestem is subject to several pathogenic agents that impact the plant in terms of its ability to photosynthesize and thus produce feedstock or biomass. Reductions may occur when the plant is parasitized by a pathogen that causes foliar disruption such as leaf rust, anthracnose, leaf blotch, and leaf spot. The fungal pathogen *Phyllosticta andropogonivora* was isolated from little bluestem plants in North Dakota and then used to re-infect plants in an isolated greenhouse experiment. This leaf spot disease has the potential to reduce the forage quality and yield of little bluestem. Viral pathogens can also cause physiological damage to plants that result in lowered photosynthetic capacity and biomass production. Little bluestem has been identified as being infected by maize streak monogeminivirus.

Seed and Plant Production
The seed and seedling production of little bluestem can be accomplished in one to two years. A reasonable expectation is that seed production can begin the second year, but good production will occur in the third year and beyond. Seed production fields can be established in 30 to 42 inch rows. Cultivation and broad leaf herbicides can be successful at controlling weeds the establishment year. Other labeled herbicides can be used to provide weed control once plant establishment is complete. Nitrogen fertilizer can be applied at a rate of 50 to 75 pounds of actual nitrogen per acre with potassium and phosphorus applied as recommended by the soil test. Irrigation water can be applied as necessary to produce a seed crop. A six year average of Aldous seed production at Manhattan, Kansas yielded 79 PLS pounds per acre with an average purity, germination, and dormancy of 88.89, 49 and 7.4 percent, respectively. Seed units can be planted in the greenhouse to propagate little bluestem seedlings. Seed will germinate in 10 to 21 days after planting in containers and can normally be moved to the field following 60 growing days in the greenhouse. Plants growing in the field can be excavated and physically divided into clonal pieces for genetic studies or to increase the number of plants in a population. This type of work is labor intensive and does not quickly increase the number of individual plants.

Availability
For conservation use: Aldous little bluestem is widely available in the commercial native seed trade industry.

For seed or plant increase: The Manhattan PMC maintains the breeder and foundation seed of Aldous little bluestem. There is no registered seed class of this variety, only breeders, foundation and certified seed classes are recognized.

For more information, contact:
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http://www.plant-materials.usda.nrcs.gov/

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For additional information about this and other plants, please contact your local USDA Service Center, 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://www.plant-materials.nrcs.usda.gov>