

A Conservation Plant Released by the Natural Resources Conservation Service
 Manhattan Plant Materials Center, Manhattan, Kansas

'Chet'

Sand bluestem

Andropogon hallii Hack.



Figure 1. Photograph of Chet sand bluestem inflorescence beginning the process of flowering and seed production. Photograph by R. Alan Shadow, East Texas Plant Materials Center.

'Chet' sand bluestem (*Andropogon hallii* Hack.) is a cultivar released in 2004 in cooperation with the U.S. Department of Agriculture (USDA) Agriculture Research Service (ARS) Southern Plains Range Research Station, Woodward, Oklahoma, and the Plant Materials Centers located in Manhattan, Kansas, and Knox City and Nacogdoches, Texas.

Description

Sand bluestem is a native, perennial, warm-season, tall grass species that spreads by seed and elongated creeping, scaly rhizomes. It is commonly found on loamy or sandy textured soils. It forms a sod with its well-developed rhizomes and often forms dense colonies of 15 to 20 feet in diameter. This medium stature species produces seed

from August to October on seed culms that are 3 to 6 feet in height. Leaf blades are up to 12 inches long and 1/8 to 3/8 inch wide. Leaf sheaths are shorter than internodes and hairless. Inflorescences are extremely hairy. The rest of the plant body is glaucous and is described as being blue green in overall color. It is similar in appearance to big bluestem and the two will occasionally hybridize in nature.

Source

Chet was derived from a collection of big bluestem (*Andropogon gerardii* Vitman) and sand bluestem that consisted of 158 accessions received as seed from the USDA-ARS North Central Regional Plant Introduction Station in 1985. The collection was assembled by the late Dr. Kling Anderson, Kansas State University, Manhattan, Kansas. Chet went through three cycles of phenotypic mass selection for growth, re-growth, disease resistance, and leafiness. Plant selections in subsequent cycles focused on seedling vigor and seed size to some extent and also on selection for a medium stature population. Seed from the third cycle of selection was called population 'AB medium,' which was subsequently released as Chet sand bluestem in 2004.

Conservation Uses

Chet is a warm-season, perennial grass utilized for forage production in the warm summer months. At five test locations in Oklahoma, Texas, and Kansas average forage dry matter yield was 5,700 pounds per acre an 8.8 percent greater yield than 'Woodward' sand bluestem at these same test sites. The seasonal average crude protein and *in vitro* digestible dry matter were not significantly different from Woodward in these field trials. The species is also found in conservation plantings especially on sandy areas where it performs well in preventing soil erosion and dune formation. Wildlife habitat and forage production are important qualities of Chet sand bluestem. Upland song birds eat the seeds and its upright growth habit provides nesting habitat for birds and small mammals. With the increased popularity of low input, low maintenance landscaping, sand bluestem has grown in use as an accent or unique focus plant in some home flower displays.

Area of Adaptation and Use

Chet is a stable, random mating population selected for increased seedling vigor, seed size, disease resistance, and medium stature. It is adapted to USDA Plant Hardiness Zones 5b, 6, and 7a in the Central and Southern Great Plains of the United States. With additional testing, it may be adapted to other parts of the same hardiness zones or different hardiness zones.

Establishment and Management for Conservation Plantings

Sand bluestem should be seeded in the spring when the soil temperature has warmed sufficiently to enhance germination. The best method to seed sand bluestem is by using a drill with picker wheels to ensure seed flow within the box and depth bands provide correct planting depth for the seed. A press wheel assembly located behind the double-disk openers and depth bands is a plus for ensuring good seed-to-soil contact. The seeding should be completed on a firm, weed-free seed bed for best results. Nitrogen fertilization is discouraged since high nitrogen would mainly enhance annual weedy species and compete with the desirable planted species. Control of competitive weedy species may be accomplished by mowing at a height 6 to 8 inches to reduce weed pressure. Prescribed burning in the spring can damage cool-season species and remove previous year's residue and invigorate sand bluestem seedlings.

Ecological Considerations

Sand bluestem does not pose any known negative concerns for the environment. It can form dense colonies on coarse soils where it is well adapted. This attribute is seen as a positive trait for increasing ground cover which tends to reduce water and wind erosion on fragile soil sites. Grasshopper infestations can cause damage on juvenile seedling stands. Leaf rust is an anti-quality factor when using sand bluestem for livestock forage consumption.

Seed and Plant Production

Seed production of Chet sand bluestem is the best method of widespread propagation. Planting of seed in the spring or early summer is ideal when the soil temperature has reached at least 50 degrees Fahrenheit (F). The planting site should be firm, weed free, and clean-tilled to enhance seed germination and establishment. Ideally a site could be fallowed a year prior to planting to ensure no perennial persistent weeds are evident and no herbicide has been used on the site that would inhibit germination or establishment of the grass. A drill equipped with depth bands, press wheels and picker wheels in the seed box would provide optimum placement of seed units at 1/4 to 1/2 inch depth in the soil. A seeding rate of 30 pure live seeds per linear foot of row and rows spaced at 24 to 36 inches will provide a good stand. Application of nitrogen fertilizer to newly planted field is not recommended since annual weed growth would be stimulated by fertility

much more than the sand bluestem. Harvest seed in the fall with a combine and clean with a fanning mill and debearder to produce saleable seed. Seed yield average annual production in non-replicated plots at Woodward and Perkins, Oklahoma, produced 52.6 pounds of seed per acre.

Availability

For conservation use: Chet is available in the commercial seed trade.

For seed or plant increase: Breeder seed can be obtained from USDA-ARS, Southern Plains Range Research Station at Woodward, Oklahoma. Four classes of seed are recognized for Chet sand bluestem (Breeder, Foundation, Registered, and Certified). One generation of seed increase will be allowed for each seed class. Foundation Seed is produced by the Oklahoma Foundation Seed Stock Inc., Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma 74078.

For more information, contact:
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Woodward, Oklahoma 73801
(580) 256-7449 FAX (580) 256-1322
<http://www.sprrs.usda.gov>

Citation

Release brochure for Chet sand bluestem (Andropogon hallii). USDA-NRCS Plant Materials Centers located at Knox City and Nacogdoches, Texas, and Manhattan, Kansas.
Published: [July, 2015]

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