

USDA-Soil Conservation service
Notice of Source Identified Plant Release

Sideoats Grama

The USDA-Soil Conservation Service (SCS), the University of Northern Iowa (UNI), the (Iowa) County Integrated Roadside Vegetation Management Program (IIRVMP), the Iowa Department of Transportation (IDOT), and the Iowa Crop Improvement Association (ICIA) announce the release of source identified (Central Iowa) germplasm of sideoats grama, *Bouteloua curtipendula* (Michx.) (Torr.).

The sideoats grama has been assigned the SCS accession number 9062279.

origin: Central Iowa.

Ecotype Description:

Sideoats grama is a warm season perennial grass of mid-height (three feet, 1 meter). It is generally considered a bunch grass but has short scaly rhizomes and rarely forms a sod. Leaves of sideoats are flat with a width of about one centimeter (1/2 inch). An identifying characteristic is perpendicular, often opposite, hairs on the margins of the leaves. These hairs grow from gland-like bumps which may be easily seen with a magnifying lens. Oat-like seeds hang from one side of the stem (rachis), hence "side-oats".

Sideoats seeds per pound average 191,000. A seeding rate of 25 to 30 pure live seeds (PLS) per linear foot in 30 inch (30 inches to 40 plus inches) rows (two to three PLS pounds/acre) for seed production is sufficient. Broadcast rates for pasture seeding should run six to eight PLS pounds per acre (15 to 25 bulk pounds/acre). Seed should be planted 1/4 to 1/2 inch deep in a firm relatively weed free seedbed. Seedling vigor is good and stands are comparatively easy to establish where competition is controlled. Burndown chemical sprays have been used to reduce competition when reduced tillage methods are used in establishment. Post-emergence broadleaf sprays have been used when sideoats is past the four-leaf stage. Seed yields are good and seed have been commonly combined. Yields of 400 pounds per acre have been commonly harvested on managed stands.

Collections of sideoats from east to west across Iowa prevent positive assessment of all pollination or chromosome characteristics. Sideoats is known to be variable in chromosome numbers and in reproduction mechanisms. Plants are often cross-pollinated, with many hybrids being formed in the area of adaptation. Also, plants with chromosome numbers greater than 52 are known to commonly reproduce asexually. Pollination may still be required for seeds to form. For isolation requirements, Iowa sideoats will be considered cross-pollinated.

Sideoats is adapted to most upland soils. Ecotypes are adapted to areas with as little as 14 inches to over 50 inches of average annual

precipitation. Sideoats grows in most states east of the Rocky Mountains.

Site Description:

Only one collection was made of sideoats grama, of Central Iowa origin (9062279).

County	Section	Range	Township	Soil Types
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Black Hawk	14	13W	89W	Finchford-Flagler Urban land complex

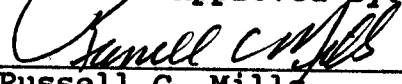
Climate: The average annual temperature is 48 degrees Fahrenheit. July is the warmest month with an average high of 85 degrees and low of 64 degrees. January is the coldest month with an average high of 27 degrees and low of 8 degrees. The average annual precipitation for this region is 30 inches with much of this coming during the growing season. The average frost-free growing period runs from April 30 to October 6.

Literature Review: See attachment

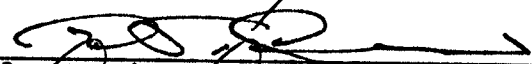
Availability of Plant Materials:

Breeders material is being produced by the Elsberry, Missouri Plant Materials (PM) Center and the UNI.

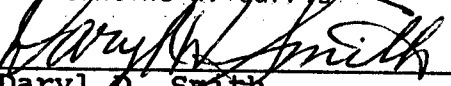
Released Approved By:




Russell C. Mills Chairman, PM Advisory Committee, SCS



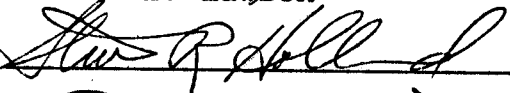
Constantine W. Curris Representative UNI




Daryl D. Smith Program Director IRVM



Robert E. Lawson Secretary/Treasurer ICIA



Steve R. Hall Representative IDOT



Jeffrey R. Vonk Iowa State Conservationist

References:

Forages; p. 235; Heath, Metcalf, and Barnes; Iowa State University Press, Ames, Iowa, 1973.

Grass-The Yearbook of Agriculture, 1948; pp. 655-656; U.S. Dept. of Agric.; U.S. Gov. Printing Office, Washington D. C., 1948.

Pasture and Range Plants; p. 19; Phillips Petroleum Co.; Bartlesville, OK, 1974.

Plant Specification; pp. 331-337; Verne Grant; Columbia University Press, 1971.

Prairie Plants of Illinois; p. 76; John W. Voight, Dept. of Botany, S. Illinois Univ. and Robert H. Mohlenbrock, Chairman, Dept. of Botany, S. Illinois Univ.; Printed by authority of the State of Illinois in cooperation with the Ill. Dept. of Conservation, Div. of Forestry, Springfield, Ill.

United States Department of Agriculture, Misc. Publ. No. 200, Washington, D. C.; Manual of the Grasses; A. S. Hitchcock; p. 535; U. S. Government Printing Office, Washington, D. C. 1950.

Source Identified Release

General

Sideoats Grama

State of Problem:

Currently many conservation groups support the planting of native species for erosion control and for the maintenance of related resources. Many locally adapted native forb and grass species are currently not available or are not available in sufficient quantities to meet these needs. The Iowa Department of Transportation (IDOT) and the Iowa Integrated Roadside Vegetation Management Program (IIRVMP) have emphasized the need for native materials in stabilizing roadbanks. A lack of sufficient seed sources of this kind of material limits the reestablishment of native plants and correspondingly limits native habitat for wildlife.

State of Need:

Well adapted native grass and forb species offer many advantages as sustainable vegetative cover for stabilization and management of soil and water resources. Native plant communities resist noxious weed invasion, provides excellent erosion control, and generally require relatively low maintenance. The lack of species or lack of sufficient seed supplies limits the use of these plants in conservation work.

Producers are often unwilling to risk the dollars needed to collect and increase these materials without guarantee of a ready market. By collecting the materials, providing the initial increase, and providing an initial market through the IDOT this program brings plant needs to the attention of producers and provides a means of reducing their risk.

The implementation of this program and release of this species will help solve a high priority problem identified by the Iowa State Plant Materials Committee. Erosion control is the top priority of this committee. Additionally, other priority items such as water quality and wildlife needs will be benefited through this plant release. The seed source problem will be solved for this native species and seed will be available in sufficient quantities to be used in conservation seedings. The plant when released will be immediately marketed to the IDOT and IIRVMP. Development of other markets are anticipated through promotion by wildlife organizations and through private interest when IDOT needs have been satisfied.