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 (Southern Iowa) germplasm of sideoats grama, *Bouteloua curtipendula* (Michx.) (Torr.).

The sideoats grama has been assigned the SCS accession number 9062280.

Origin: Southern 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, 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. The number of collections from each zone in Iowa

guarantees the adaptation of releases to the entire zone. Sideoats grows in most states east of the Rocky Mountains.

Site Description:

collections from the following locations are included in the composite sideoats grama. Southern Iowa origin (9062280).

County	Section	Range	Township	Soil Types
Page	7	37W	67N	Sharpsburg silty clay loam Mayberry clay loam
Taylor	8	8W	75N	Gravity silty clay loam
Union	3	29W	71N	Pershing silt loam

Climate: The average annual temperature is 51 degrees Fahrenheit. July is the warmest month with an average high of 87 degrees and low of 65 degrees. January is the coldest month with an average high of 31 degrees and low of 12 degrees. The average annual precipitation for this region is 33 inches with much of this coming during the growing season. The average frost-free growing period runs from April 25 to October 9.

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. Currys — Representative UNI

Daryl D. Smith — Program Director IIRVMP

Robert E. Lawson — Secretary/Treasurer ICIA

Steven R. Holland — Representative IDOT

Jeffrey R. Yonk — Iowa State Conservationist

References:

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

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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.

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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.