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

Vegas Germplasm alkali sacaton

Sporobolus airoides (Torr.) Torr.

A Conservation Plant Release by USDA NRCS Tucson Plant Materials Center, Tucson, Arizona

Figure 1: Vegas Germplasm alkali sacaton

Vegas Germplasm alkali sacaton [*Sporobolus airoides* (Torr.) Torr.] is a selected class of plant release developed by the U.S. Department of Agriculture, Natural Resources Conservation Service and the U.S. Department of the Interior, Bureau of Land Management in 2006.

Description

Alkali sacaton is a native, warm-season, perennial bunchgrass. It reaches heights of 1.5 to 3.5 feet. The open panicles are pyramidal, variable in size, and often purple. Spikelets diverge from the panicles and have one flower. The leaves are flat and pointed with prominent ridges on their top surfaces.

Alkali sacaton can reproduce from seeds and/or tillers and is found on dry, sandy to gravelly flats or slopes at elevations from 165 to 7700 feet. It often occurs in pure, dense stands. It blooms from April to May, producing seed from late summer to October. Seed fall readily from the spikelet when mature.

The species is a facultative halophyte, having a broad tolerance to salinity. It is common in moist alkaline flats due to its adaptation to soils containing high concentrations of sodium as well as high concentrations of bicarbonate and sulfate compounds. On saline soils it is commonly found as a primary or secondary invader.

Source

Vegas Germplasm alkali sacaton is a composite population developed from nine distinct native alkali sacaton stands in southern Nevada (figure 2). Plant materials were collected from distinct locations within southern Nevada to develop a population of alkali sacaton with a broad genetic base and a greater likelihood of adaptation to the range of conditions within the region of collection.

Collections were planted into a field at the Tucson Plant Materials Center in June 2005. Seed was harvested three times during the growing season. Multiple harvests insure that all collections are represented in the new population regardless of time of seed maturity. The seed from the three harvests was combined to produce Vegas Germplasm alkali sacaton.

Conservation Uses

The potential uses of Vegas Germplasm alkali sacaton include restoration and rehabilitation of riparian systems, wildlife habitat improvement, restoration of disturbed areas, and increasing plant diversity in areas along the Virgin River and other lands in southern Nevada.

Area of Adaptation and Use

Vegas Germplasm alkali sacaton was developed for use in Major Land Resource Area 30 in southern Nevada. This does not preclude the potential use of Vegas Germplasm in other areas with similar climatic conditions.

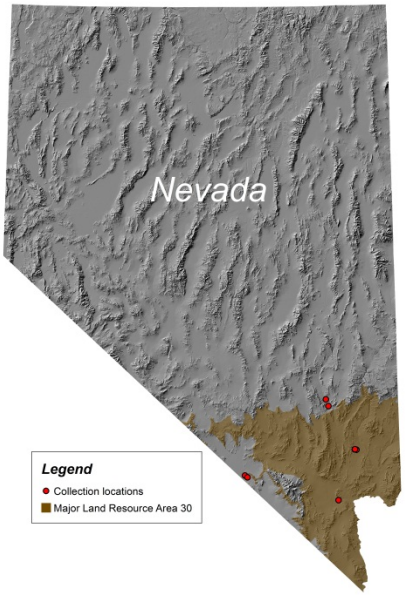

Figure 2: Collection locations of Vegas Germplasm alkali sacaton

Establishment and Management for Conservation Plantings

The recommended seeding rate for alkali sacaton is 0.8 pure live seed (PLS) pounds per acre if planted with a drill and approximately 1.6 PLS pounds per acre if seed is broadcast. When used as part of a mix, the seeding rate should be adjusted to the desired percentage of the mixture. There are approximately 2,082,569 seeds of Vegas Germplasm alkali sacaton per pound.

Seed should be planted into a firm, weed-free seedbed at ¼ inch depth. Due to the small seed size, the use of a carrier, such as rice hulls, should be considered in order to obtain better control of the seeding rate. Broadcast seeding should be followed with a cultipacker or harrow to provide seed with a shallow covering of soil.

Newly seeded areas should be deferred from all grazing from the date of planting until the end of the second growing season or later, if necessary, to allow for stand establishment. Solid plantings of alkali sacaton should be grazed during the spring and summer when growth is most active.

Ecological Considerations

Vegas Germplasm alkali sacaton is a composite of naturally occurring germplasm and has undergone minimal purposeful selection. Vegas Germplasm does not differ significantly in rate of spread, seed production, or vigor from naturally occurring alkali sacaton.

Seed and Plant Production

Vegas Germplasm alkali sacaton should be planted in early spring into a firm, weed free seedbed at ¼ inch depth with 24-40 inch within row spacing. Row spacing can vary from 34-40 inches. The planting should be irrigated to maintain a moist soil surface and to avoid soil crusting. Pre-emergent herbicide may be used to control weeds after the plants have reached the 3-5 leaf stage.

Established fields require 40-60 pounds per acre available nitrogen per year and should be irrigated approximately every four weeks during the growing season. Phosphorus and potassium should be applied according to soil test results.

Seed is produced from summer to fall. Seed harvests may be accomplished by direct combining or using a seed stripper. Yields for irrigated production fields average 100 pounds per acre at the Tucson Plant Materials Center.

To clean harvested material, seed with attached rachillas may be put through a hammer mill to break up stems and remove seedheads from the rachillas. Seed may then be separated from the chaff using a clipper air screen cleaner with 1/16 top screen and 60x60 bottom screen.

Availability

For conservation use: Alkali sacaton is widely available from commercial seed producers.

For seed or plant increase: Seed production of Vegas Germplasm alkali sacaton will be maintained by the USDA NRCS Tucson Plant Materials Center. Limited quantities of seed are available to seed producers for increase and to other interested parties, as available.

For more information, contact:
NRCS Tucson Plant Materials Center
3241 N Romero Road
Tucson, AZ 85705-9233
Phone: (520) 292-2999
Fax: (520) 292-9099
www.plant-materials.nrcs.usda.gov/azpmc.

Citation

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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>

Figure 3: A field of Vegas Germplasm alkali sacaton