



'Stevan' plains bristlegrass

Setaria leucopila
(Scribn. & Merrill) K. Schum



Figure 1: Stevan plains bristlegrass

'Stevan' plains bristlegrass (*Setaria leucopila*) was released by the USDA-NRCS Tucson Plant Materials Center, USDA-Agricultural Research Service, and the University of Arizona Agricultural Experiment Station in 1994.

Description

Plains bristlegrass is a native, perennial, apomictic, warm-season bunchgrass. It has smooth stems that sometimes bend at the nodes and range from 2 to 3 foot tall. The leaves are bright green and 6 to 12 inches long. The contracted panicles are densely flowered and bristly. It is most often found on dry plains, rocky slopes, and along washes, often in the partial shade of shrubs and trees.

Source

Stevan plains bristlegrass is a population comprised of 13 multi-plant accessions from Arizona, New Mexico, and Texas. The accessions were selected from an initial evaluation study conducted at the Tucson Plant Materials Center from 1975 to 1979 because of their uniformity in growth form and flowering periods. In 1979, seed produced from the apomictic accessions was bulked in equal quantities to form Stevan.

Conservation Uses

Stevan was released primarily for use in revegetation of eroded rangelands, retired croplands, critical areas (e.g., highway construction sites), and to provide forage for wildlife and livestock use. In arid climates, soil surface moisture is a limiting factor in germination and seedling establishment. Stevan plains bristlegrass is an excellent candidate for revegetation use because of its ability to emerge and establish from greater seeding depths than many other grass species.

Area of Adaptation and Use

Stevan is recommended for use in Major Land Resource Areas 41, 42, 77, 78, and 81 at elevations between 2,200 and 6,500 feet. Stevan was included in plantings on the Santa Rita Experimental Range from 1982 to 1986. Stevan exhibited good germination and establishment in years having average precipitation (8-12 inches/year). In 1993, Stevan was included in a planting in Avra Valley, Arizona to evaluate seedling emergence and establishment from various planting depths. Stevan exhibited significantly higher emergence percentages than a commercially available population of plains bristlegrass.



Figure 2: Area of adaptation of Stevan plains bristlegrass

Establishment and Management for Conservation Plantings

The recommended seeding rate for plains bristlegrass is 3.7 pure live seed (PLS) pounds per acre if planted with a drill and approximately 7.4 PLS pounds per acre if seed is broadcast. It is recommended that Stevan plains bristlegrass be utilized as part of a seeding mixture comprising approximately 20-30% of the total mix; however, the percent composition may vary depending on the seeding objective. There are approximately 293,000 seeds of plains bristlegrass in a pound.

In southern Arizona, the recommended planting period for rangeland applications using Stevan is after the onset of seasonal summer moisture. Spring plantings are generally not recommended unless supplemental irrigation is available. Seed should be planted into a firm, weed-free seedbed at a depth of 1–1.5 inches. Broadcast seeding should be followed with a cultipacker or harrow to ensure good seed to soil contact.

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. Once established plains bristlegrass is highly palatable and will not survive heavy grazing. Grazing management usually depends on rotational systems that allow for periodic growing season deferral.

Ecological Considerations

This release is an indigenous selection collected from within the species natural range of adaptation. This species is documented as having beneficial qualities and no negative impacts on wild or domestic animals.

Seed and Plant Production

Stevan plains bristlegrass should be planted in the early spring into a firm, weed free seedbed at a 1 inch depth with 24-40 inches within row spacing. Row spacing can vary from 36-40 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. Apply phosphorus and potassium according to soil test results. Seed is produced from summer to fall. Seed harvest is accomplished with a seed stripper. Yields for irrigated production fields average 100-150 pounds per acre at the Tucson Plant Materials Center.

To clean harvested material, seed may be put through a brush huller/scarifier with a #12 screen to separate the seeds from the panicle. Seed may then be separated from

the chaff using a clipper air screen cleaner with a #7 top screen and a 34x34 bottom screen.

Availability

For conservation use: Plains bristlegrass is available from the commercial seed market.

For seed or plant increase: Seed production of Stevan plains bristlegrass 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:
Tucson Plant Materials Center
3241 N Romero Rd, Tucson, AZ 85705
Phone: 520-292-2999 Fax: 855-848-4349
<http://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>>

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