

**REGISTRATION AND RELEASE OF 'STEVAN' PLAINS BRISTLEGRASS
1995 - FINAL REPORT**

by
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'STEVAN PLAINS BRISTLEGRASS [*Setaria leucopila* (Scribn. & Merrill) K. Schum.] (Reg. no. CV-173, P.I. 552568) was released by the USDA-SCS, USDA-ARS, and the University of Arizona Agricultural Experiment Station April 1, 1994. The cultivar will be used as an erosion control plant in southeastern Arizona, southwestern and southeastern New Mexico, and western Texas.

Stevan plains bristlegrass is an apomictic, C₄, native, perennial, warm-season bunchgrass (Emery 1957).

Stevan is the product of a testing program to develop a superior population of plains bristlegrass that was conducted at the Tucson Plant Materials Center (TPMC). Stevan plains bristlegrass is a population of 13 accessions that were selected from an initial evaluation study conducted at the TPMC from 1975 through 1979. Open-pollinated seed produced in 1979 from these accessions was bulked to form Stevan. Stevan was included in plantings on the Santa Rita Experimental Range from 1982 through 1986 (Briggs 1982, Munda and Pater 1989). The Stevan population exhibited good germination and establishment in years having normal amounts of precipitation (200-300 mm yr⁻¹). In 1993 Stevan was included in a planting in Avra Valley, Arizona. The purpose of this planting was to evaluate seedling emergence and establishment from planting depths of 1.25, 2.5, and 3.75 cm. Stevan exhibited a higher seedling emergence percentage and average number of seedlings per 0.3 m at the 3.75 cm planting depth. However, this was not significantly higher ($P < 0.05$) than emergence and establishment from the 1.25 and 2.5 cm planting depths. Stevan exhibited significantly higher emergence percentage ($P < 0.05$) over a commercially available population of plains bristlegrass.

Stevan was selected primarily for use in revegetation of eroded rangelands, retired croplands, critical areas (i.e. highway construction sites), and to provide a degree of 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. It is recommended that Stevan be utilized as part of a seeding mixture comprising roughly 20-30% of the total mix. However, the percent composition can vary depending on the seeding objective.

Seed propagation of Stevan is restricted to two generations of increase from breeder seed, and one each of foundation and certified. Breeder and foundation seed will be maintained by the USDA-SCS, Tucson Plant Materials Center, 3241 N. Romero Rd., Tucson, AZ

85705. Limited quantities of foundation seed will be available for commercial production in 1994.

References and Notes

Briggs, J. 1982. Santa Rita Field Evaluation Planting - 04A182H. **USDA-SCS** Tucson Plant Materials Center 1982 **Annual** Technical Report. Tucson, AZ . Pp. 101- 102.

Emery, W.H.P. 1957b. **A study of** reproduction in *Setaria macrostachya* and its relatives in the southwestern United States and Mexico. Bull. Torr. Bot. Club 84:106-121.

Munda, B. **and** M. Pater. 1989. 1978 *Setaria macrostachya* Advanced Evaluation 04A7801L. **USDA-SCS** Tucson Plant Materials Center 1989 Annual Technical Report. Tucson, AZ . Pp.238-242.