



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

Cochise Germplasm spike dropseed

Sporobolus contractus A.S. Hitchc.

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



Figure 1: Cochise Germplasm spike dropseed (*Sporobolus contractus*) is a selected class conservation plant released by the Tucson Plant Materials Center (PMC) and the University of Arizona in 2005.

Description

Spike dropseed is a native, perennial, warm-season bunchgrass 1.5 to 4 feet tall with a spikelike inflorescence. It is found in deep sandy bottoms and uplands between 200 and 7000 feet elevation. Flowering in native environments occurs from August to October, occasionally as early as June. Spike dropseed is found from Colorado to southeastern California, Texas, and Sonora, Mexico.

Source

Cochise Germplasm is a genetically diverse population of spike dropseed, composed of 44 collections from southeastern Arizona, southern Nevada and western New Mexico. It is a selected class of germplasm developed through the Convergent-Divergent Plant Improvement Strategy (CDI). Plant material was brought to a common point (the PMC) where equal numbers of plants were planted into a polycross block (convergence), from which equal quantities of seed were harvested and propagated. These plants were then planted in diverse environments to allow a natural selection for adapted plants (divergence). Seed from the plants that survived at the divergent sites within Arizona were used to establish a seed increase field.

Conservation Uses

The potential uses of Cochise Germplasm spike dropseed include erosion control, wildlife food/cover, restoration of disturbed areas, rehabilitation of rangeland, and for increasing plant diversity in arid rangeland communities. This species was selected for germplasm development

based on biological characteristics that may allow it to compete with introduced exotic species such as Lehmann lovegrass (*Eragrostis lehmanniana*) that dominate some rangelands in southern Arizona.

Area of Adaptation and Use

Cochise Germplasm spike dropseed was developed for use in southern Arizona. Spike dropseed is found naturally growing in dry open areas. It appears to prefer open sandy or rocky slopes and washes and is frequently found along roadsides.

Establishment and Management for Conservation Plantings

Spike dropseed may be drilled, broadcast or hydroseeded into a firm, weed free soil at a depth of a ¼ inch. When broadcasting seed, dragging or harrowing the planted areas will help to obtain appropriate soil cover. Cochise germplasm spike dropseed has approximately 1,750,000 seeds per pound and a recommended seeding rate of 1.0 pure live seed (PLS) pound per acre.

Ecological Considerations

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

Seed and Plant Production

Seed production fields can be successfully established in late summer to early fall from direct seeding or transplants. Fields may be pre-irrigated and pre-treated for weed control before establishment. If seeding, a seeding rate of 30 PLS per linear foot of row with a row spacing of 24 to 38 inches is appropriate.

Seedlings can be germinated in a well-drained soil mix and outplanted to fields when sufficient growth is achieved. It is recommended to wait until plants have achieved the 3-5 leaf stage before applying herbicides and then to use low rates. Fertilization is not recommended during establishment but nitrogen can be applied at 40-60 pounds per acre to established stands.

During establishment, apply enough irrigation to prevent the soil surface from crusting. Bring soil moisture to capacity in late fall. Irrigation should be avoided during flowering but good soil moisture is essential during seed development. Irrigation is not usually necessary during seed ripening.

Seed harvests can be conducted with a Woodward Flail-Vac and/or by direct combine.

Availability

For conservation use: Cochise spike dropseed has limited commercial availability but may be available from specialized seed producers/collectors on request.

For seed or plant increase: Seed production of Cochise Germplasm spike dropseed 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:
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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 2: A spike dropseed plant on the Tucson PMC farm.

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