

**A Conservation Plant Released by The Natural Resources Conservation Service
James E. "Bud" Smith Plant Materials Center, Knox City, Texas**

PMT-389

Arizona cottontop

Digitaria californica (Benth.) Henr.

PMT-389 Arizona cottontop [*Digitaria californica* (Benth.) Henr.] was informally released in 1968 by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) James E. "Bud" Smith Plant Materials Center (PMC), near Knox City, Texas. PMT-389 Arizona cottontop is a natural-track release identified by USDA NRCS accession number 469253.

Description

PMT-389 Arizona cottontop is a warm-season, perennial bunchgrass, about 24-inches tall at maturity. Leaves are pale green, soft to the touch, mostly basal, and often with downy leaf sheaths. Inflorescence consists of several long, narrow, contracted panicles, with each containing five to ten densely erect flowered branches. It is a prolific and indeterminate seed producer, and individual seed units are covered with white fuzz, which may pose a problem in refining harvested seed material (Figure 1). It is found in abundance during years with good spring rainfall. The light fluffy seed are produced indeterminately throughout the growing season when moisture conditions are favorable. The seed are difficult to harvest and process because of the indeterminate blooming habitat and nature of the seed units.

Source

PMT-389 Arizona cottontop was collected in 1958 from native plants found near Van Horn, Texas. It was selected from a group of Arizona cottontop collections and increased for seed production at the Spur nursery in the early 1960's. It was compared to five other collections of Arizona Cottontop during 1965 – 1968 at the James E. "Bud" Smith PMC.

Conservation Uses

Arizona cottontop is recommended for critical area settings, wildlife habitat plantings, and inclusion in range and pasture seed mixes.



Figure 1. PMT-389 Arizona cotton top (Digitaria californica) inflorescences. Photo courtesy of James E. "Bud" Smith Plant Materials Center.



Figure 2. Arizona cottontop production field during the vegetative growth phase. Photo courtesy of James E. "Bud" Smith Plant Materials Center.



Figure 3. Arizona cottontop production field during the reproductive growth phase. Photo courtesy of James E. "Bud" Smith Plant Materials Center.

Area of Adaptation and Use

Arizona cottontop grows in Texas, Oklahoma, Colorado, Arizona, Mexico, and South America. It is especially adapted to the western portion of the Rio Grande Plain, the Rolling Plains, the Edwards Plateau, and the Trans-Pecos major land resource areas (MLRA). It is adapted to medium to fine textured soils and does extremely well on eroded redbed clay soils in the Rolling Plains. Individual plants live three or four years but stands efficiently perpetuate themselves by volunteering. It has good tolerance in alkaline environments and is slightly tolerant to saline conditions.

Establishment and Management for Conservation Plantings

Schedule planting for spring to early summer in north Texas and in the appropriate MLRA as adequate moisture becomes available. Establish a clean, weed-free seedbed by either tillage or herbicides. Prior to planting, the site should be firm and have accumulated soil moisture. A seeding rate of 1.2-2.0 pure live seed (PLS) pounds per acre if planted with a drill and approximately 1.6-2.6 PLS pounds per acre if broadcasted. Some type of additional coverage such as culti-packing or light dragging is recommend ensuring good seed-to-soil contact in broadcast plantings. Plant seed $\frac{1}{4}$ – $\frac{1}{2}$ inch deep. Due to the small size of the seed, it is better to plant too shallow than too deep. PMT-389 Arizona cottontop contains approximately 718,000 seeds/lb. Grazing is recommended up to 60-days before seed maturity every two to three years to maintain vigorous growth and limit forage removal to no more than 50% of the current year's growth. Allow plants to produce seed annually to maintain a healthy and productive stand.

Ecological Considerations

No severe insect or disease problems were observed and cold tolerance beyond the area of intended use is unknown. PMT-389 Arizona cottontop is not likely to become weedy, and if it does propagate itself in conservation plantings, it is expected to have a low impact on the other species and should be easy to control.

Seed and Plant Production

PMT-389 Arizona cottontop seed production fields can be established from greenhouse grown transplants or planted on bedded rows. Seedlings grow and mature quickly and may produce a marketable seed crop the first year. Seed harvest is possible using a variety of methods and implements. Because seed ripens indeterminately, a brush-like harvester or Shelbourne stripper header collects the ripe seed without damaging or eliminating the ability to make subsequent harvests as later flowering florets mature. At the James E. "Bud" Smith PMC, four or more seed crops are harvested during a season.

Availability

For conservation use: PMT-389 Arizona cottontop seed is available from licensed native seed dealers in Texas.

For seed or plant increase: Seed and plant growers should contact the James E. "Bud" Smith PMC to obtain seed of PMT-389 Arizona cottontop for commercial increase.

For More Information

USDA-NRCS James E. "Bud Smith Plant Materials Center; 3950 FM 1292, Knox City, Texas, 79529; (940) 658 – 3922, ext. 5; <http://www.nrcs.usda.gov/wps/portal/nrcs/main/plantmaterials/pmc/central/txpmc/>.

Citation

Release Brochure for PMT-389 Arizona cottontop [*Digitaria californica* (Benth) Henr.]. 2022. USDA-Natural Resources Conservation Service, James E. "Bud" Smith Plant Materials Center. Knox City, Texas.

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 website <<http://plants.usda.gov>> or the Plant Materials Program website <<http://www.plant-materials.nrcs.usda.gov>>

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