



A Conservation Plant Released by the Natural Resources Conservation Service, James E. “Bud” Smith Plant Materials Center, Knox City, Texas and *Texas Natives Seeds*, Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville, Kingsville, Texas.

Permian Germplasm whiplash pappusgrass

Pappophorum vaginatum Buckley

Permian Germplasm whiplash pappusgrass (*Pappophorum vaginatum* Buckley) was cooperatively released in 2020 by the *Texas Natives Seeds* program of the Caesar Kleberg Wildlife Research Institute at Texas A&M-Kingsville, Kingsville, Texas; and the USDA NRCS James E. “Bud” Smith Plant Materials Center, Knox City, Texas. This release is a selected plant material class of certified seed.

Description

Whiplash pappusgrass is a warm-season perennial bunchgrass with vegetative characteristics similar to *P. bicolor*. Culms are 12 to 40 inches (30-100 cm) tall, stiffly erect, somewhat geniculate, and glabrous. Sheaths have a tuft of long hairs on either side of the collar, and the hairs are deciduous. The ligule is a ring of short hairs 0.5-1.0 inches (0.2-0.4 cm) long. Blades are flat or involute, scabrous on the adaxial surface, 4 to 12 inches (10-30 cm) long and 0.05 to 0.2 inches (0.15-0.5 cm) broad. Panicles are narrow, tightly contracted, whitish or tawny, only rarely with a slight purple tinge, mostly 5 to 10 inches (12-25 cm) long. Spikelets with 1, rarely 2, perfect florets and 2 reduced florets above. The lemma of lower floret has a body 0.08 to 0.12 inches (0.2-0.3 cm) long and awns up to 0.2 inches (0.5 cm) long. In west Texas it will grow 3-5 feet (90-150 cm) tall and will produce seed continuously from May to first frost.



Permian Germplasm whiplash pappusgrass (*Texas Native Seeds*)

Source

Permian Germplasm includes 4 distinct populations of whiplash pappusgrass, each increased in isolation to maintain genetic diversity of the wild populations. This selection originates from collections made from native plants growing in the Chihuahuan Deserts, High Plains, Edwards Plateau, and Central Great Plains. No breeding, selection, or genetic manipulation was used in the development of this selected class release.

Conservation Uses

Permian Germplasm is recommended for critical site revegetation, roadside plantings, rights-of-way plantings, erosion control, upland wildlife habitat improvement, and rangeland plantings for west Texas.

Area of Adaptation and Use

Permian Germplasm has shown excellent seed quality and active germination. Best performance of this seed source has been observed on medium to fine textured soils. Excellent performance has been observed on loamy soils in the Permian Basin. Permian Germplasm has shown tolerance to moderately saline and alkaline sites.

The area of known adaptation of Permian Germplasm includes the Southern Desertic Basins, Plains and Mountains (MLRA 42); the Southern High Plains (MLRA 77C); and the Central Rolling Red Plains (MLRA 78B) ecoregions.

Establishment and Management for Conservation Plantings

Plant during the summer rainy season in far west Texas, and during spring-early summer in west Texas. Begin seedbed preparation in advance of the planting. Establish a clean, firm, weed-free seedbed by tillage or herbicides. Allow the site to accumulate soil moisture prior to planting. Whiplash pappusgrass is planted using a drill or broadcast seeder. If broadcast

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seeded, some type of additional coverage such as culti-packing or light dragging is recommended to ensure good seed-to-soil contact. Plant seed 1/8 to 1/4 inch deep. It is better to plant too shallow than too deep. For calibration purposes, Permian Germplasm contains approximately 338,501 uncoated seed/lb. the seeding rate is 2-3 PLS lb/acre for monoculture plantings. When planting seed mixtures, reduce the seeding rate according to the desired percentage of Permian Germplasm whiplash pappusgrass in the mixture.

Defer grazing until plants are well established. Allow established plants to mature seed every 2 to 3 years to encourage reseeding.

Ecological Considerations

No severe insect or disease problems have been observed in whiplash pappusgrass once established. Cold tolerance of this germplasm beyond the area of intended use is unknown.

Seed and Plant Production

Whiplash pappusgrass seed production fields can be established from greenhouse grown transplants or drilled on bedded or flat rows. Transplanted seedlings grow and mature quickly, producing a marketable seed crop the first year. Seed is harvested with a Flail Vac (Ag renewal Inc., Weatherford, OK) or similar brush-type harvester without damaging or eliminating the ability to make subsequent harvests. Multiple harvests per year are possible with this harvest method where seed fields are well managed with fertility and irrigation. Combining is also an option for harvesting seed. Debearding the seed is accomplished with a brush machine. Stems and chaff are removed with a clipper seed cleaner (A.T. Ferrell Company, Inc., Bluffton, IN).

Availability

Seed of the Permian Germplasm whiplash pappusgrass will be identified by USDA NRCS accession number 9112266. First generation (G0) seed will be produced and maintained by *Texas Native Seeds*.

For more information, contact:

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<https://www.nrcs.usda.gov/wps/portal/nrcs/main/plantmaterials/pmc/central/txpmc/>

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<http://ckwri.tamuk.edu/research-programs/texas-native-seeds>

Citation

Release Brochure for Permian Germplasm whiplash pappusgrass (*Pappophorum vaginatum* Buckley) USDA-Natural Resources Conservation Service, James E. "Bud" Smith Plant Materials Center, Knox City, Texas 79529. Published March 2020.

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>>



Seed of Permian Germplasm whiplash pappusgrass (*Texas Native Seeds*)

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