

A Conservation Plant Released by the Natural Resources Conservation Service
 E. "Kika" de la Garza Plant Materials Center, Kingsville, Texas and
 Texas Native Seeds, Caesar Kleberg Wildlife Research Institute,
 Texas A&M University-Kingsville, Kingsville, Texas

Welder Germplasm shortspike windmillgrass

Chloris × *subdolichostachya* Muell.
 (pro sp.) [*cucullata* × *verticillata*]

Welder Germplasm shortspike windmillgrass (*Chloris* × *subdolichostachya* Muell. (pro sp.) [*cucullata* × *verticillata*]) was a cooperative release between the E. "Kika" de la Garza Plant Materials Center, Texas Native Seeds, and the Texas A&M AgriLife Research Station, Beeville in 2006. It is a selected plant material class of certified seed.



Figure 1. Seed increase field of Welder Germplasm

Description

Shortspike windmillgrass is a naturally occurring hybrid between the native grasses *Chloris cucullata* and *Chloris verticillata*. It is a perennial grass which produces seed and also spreads vegetatively by stolons. The mature foliage height ranges from 1 to 3 feet tall. It produces seed heads from May to October, but most of the seed is produced in September and October.

Source

Welder Germplasm shortspike windmillgrass was originally collected from a single population near the Welder Wildlife Refuge. It was chosen from a comparison with forty-two other collections of windmillgrasses because of its vigor, growth form and development, and disease resistance.

Conservation Uses

Welder Germplasm is recommended for roadside plantings, critical site revegetation, and rangeland seed mixes. It can be used in many types of conservation plantings, such as grassed waterways, riparian buffers, filter strips, and pond embankments.

Area of Adaptation and Use

Welder Germplasm has performed well at locations in the Rio Grande Plain (MLRA 83), Gulf Coast Prairies and Marshes (MLRA 150), Rolling Plains (MLRA 78), Pineywoods (MLRA 133B), Blackland Prairie (MLRA 86), Edwards Plateau (MLRA 81), and Oak Woods and Prairies (MLRA 87) regions of Texas.

Establishment and Management for Conservation Plantings

Begin seedbed preparation well in advance of planting. Plant in early fall (August) in south Texas. Establish a clean, weed-free seedbed by either tillage or herbicides. Prior to planting, the site should be firm and have accumulated soil moisture. Plant Welder Germplasm with a grass drill equipped with a small seed box if cleaned to bare caryopsis, and a fluffy seed box if left in the hull. Broadcast seeding in areas not easily planted with a drill and use additional practices such as cultipacking and harrowing to encourage good seed-to-soil contact after planting. Sand can be mixed with seed to aid in distribution. Plant seed about 1/8 to 1/4 of an inch deep. Due to the small seed size it is better to plant too shallow than too deep. For calibration purposes, Welder Germplasm shortspike windmillgrass contains approximately 3,000,000 seeds per bulk pound. A seeding rate of 1/4 to 1-pound pure live seed (PLS) per acre is recommended. In planting mixtures, reduce the rate according to the percent of Welder Germplasm in the seed mixture.

Do not graze Welder Germplasm for 1 year after planting until plants are fully established. Allow plants to produce seed annually to ensure stand health. It is recommended that Welder Germplasm be mowed or grazed to a 2 to 3-inch stubble height at least once per year. Welder Germplasm should not be burned.

Ecological Considerations

No severe insect or disease problems have been observed in shortspike windmillgrass. Cold tolerance of this germplasm beyond the area of intended use is unknown. Welder Germplasm is a naturally occurring germplasm and no breeding, selection or genetic manipulation was used in the development of this release.

Seed and Plant Production

Shortspike windmillgrass has produced as much as 250 lb/acre of clean seed but averages around 100 lb/acre. Seed production of Welder Germplasm is best started using greenhouse grown transplants, planted on bedded rows. Rapid spread and growth have been observed in transplant established production fields providing seed harvests by the second year and sometimes as quick as the first year. Transplants facilitate better weed control in the seed production fields.

Welder Germplasm produces seed heads from May to October, but most of the seed is produced in September and October. The quantity and quality of seed harvests vary greatly depending on location and field conditions, but it usually is around 80-90% PLS when cleaned to caryopsis. Unlike hooded windmillgrass which appears to have a very high active germination (>90%), shortspike windmillgrass will have an active germination of 60-70% and 20-30% dormant seed. Seed is usually harvested with a small grain combine or flail vac seed harvester. In well managed irrigated fields, 1-2 harvests can be expected per year. Overall seed fill is low in this species. If desired, clean seed with a Westrup brush machine to bare caryopsis. To clean stems and chaff from harvests, use an air screen cleaner either before or after cleaning the seed with a brush machine.

Availability

For conservation use:

Seed is available from native seed dealers in south Texas. Seed of Welder Germplasm shortspike windmillgrass is identified by accession number 9085260 and PI number 645601.

For seed or plant increase: First generation (G0) seed is produced and maintained by the E. "Kika" de la Garza Plant Materials Center. All commercial seed fields of Welder Germplasm must be isolated from other cultivated varieties and wild populations of *Chloris* × *subdolichostachya* Muell. (pro sp.) [*cucullata* × *verticillata*], *Chloris cucullata*, *Chloris verticillata*, and *Chloris andropogonoides*. G1 and G2 seed fields have a 7-year production limit, after which time, fields must be replanted using the appropriate seed generation (G0 or G1).

Citation

Release Brochure for Welder Germplasm shortspike windmillgrass (*Chloris* × *subdolichostachya* Muell. (pro sp.) [*cucullata* × *verticillata*]). USDA-Natural Resources Conservation Service, E. "Kika" de la Garza Plant Materials Center, Kingsville, Texas 78363. Published September 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>>

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