

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

Mariah Germplasm hooded windmillgrass

Chloris cucullata Bisch.

Mariah Germplasm hooded windmillgrass (*Chloris cucullata* Bisch.) was a cooperative release between the USDA-NRCS E. "Kika" de la Garza Plant Materials Center, Texas Native Seeds, and Texas A&M AgriLife Research Station, Beeville, Texas in 2006. It is a selected plant material class of certified seed.

Description

Hooded windmillgrass is a native, perennial bunchgrass with a mature foliage height ranging from 0.5 to 1 foot. It flowers multiple times over the growing season and produces seed heads from May through October (Fig. 1). However, unlike most hooded windmillgrass populations, Mariah Germplasm also spreads vegetatively by stolons.



Figure 1. Seed increase field of Mariah Germplasm

Source

Mariah Germplasm hooded windmillgrass was originally collected from a single population on a ranch in Kenedy County. 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

Mariah Germplasm is recommended for use in 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

Mariah Germplasm has performed well at locations in the Rio Grande Plain (MLRA 83), Gulf Coast Prairies and Marshes (MLRA 150), Rolling Plains (MLRA 78), and Pineywoods (MLRA 133B) 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 Mariah 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 may be used in areas not easily planted with a drill, but additional practices to encourage good seed-to-soil contact, such as cultipacking and harrowing, may be necessary 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, Mariah Germplasm hooded windmillgrass contains approximately 2,500,000 seeds per bulk pound. A seeding rate of 1/3 to 1-pound pure live seed (PLS) per acre is recommended. In planting mixtures, reduce the rate according to the percent of Mariah Germplasm desired in the seed mixture.

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

Ecological Considerations

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

Hooded windmillgrass has produced as much as 423 lb/acre of clean seed but averages around 225 lb/acre. Seed production of Mariah 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.

Mariah Germplasm produces multiple seed crops per year in south Texas. The quantity and quality of seed harvests vary greatly depending on location and field conditions, but it usually is around 90-95% PLS when cleaned to caryopsis. Seed is usually harvested with a small grain combine or flail vac brush harvester. In well managed irrigated fields, 2-3 harvests can be expected per year. The first harvest is typically made in early May with the last harvest occurring in October. Overall seed fill is low in this species. If desired, clean seed with a Westrup brush machine to bare caryopsis. Use an air screen cleaner to remove stems and chaff from harvests before or after cleaning seed with a brush machine.

Availability

For conservation use:

Seed is available from native seed dealers in south Texas. Seed of Mariah Germplasm hooded windmillgrass is identified by accession number 9085313.

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 Mariah Germplasm must be isolated from other cultivated varieties and wild populations of *Chloris cucullata*, *Chloris* × *subdolichostachya* Muell. (pro sp.) [*cucullata* × *verticillata*], *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

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For more information, contact:

E. “Kika” de la Garza Plant Materials Center
3409 North FM 1355 Kingsville, Texas 78363

Phone: (361) 595-1313

<http://plant-materials.nrcs.usda.gov/stpmc/>

or

Texas Native Seeds

CKWRI-TAMUK, MSC 218, 700 University Blvd., Kingsville, Texas 78363

Phone: (361) 593-4525

<https://www.ckwri.tamuk.edu/research-programs/texas-native-seeds-programs-tns>

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