

A Conservation Plant Released by the Natural Resources Conservation Service
 East Texas Plant Materials Center, Nacogdoches, Texas

Pineland Gold Germplasm Swamp sunflower

Helianthus angustifolius L.

Pineland Gold Germplasm swamp sunflower is a selected class germplasm released by the USDA NRCS East Texas Plant Materials Center (ETPMC) in 2021.

Description

Pineland Gold Germplasm is a native, warm season, perennial forb. Plants have one or more erect stems that grow 4 to 6 feet tall. Dark to medium green leaves vary from 3 to 8 inches in length and 1/8 to 3/8 inch wide. Leaves are rough to the touch. Pineland Gold Germplasm reaches 50% bloom in early October at the ETPMC. Bright yellow blooms are numerous, varying from 1.5 to about 2 inches wide with bright yellow ray florets surrounding dark brown disks (Fig. 1). Seed matures in November at the ETPMC. Mature seeds vary in length from 0.09 inch to 0.19 inch with an average of 0.13 inch and are flattened and spotted with tan markings (Fig. 2). Swamp sunflower occurs from east Texas and southeastern United States extending into Missouri and Indiana.

Source

Pineland Gold Germplasm is comprised of eleven native seed collections from Sabine, Hardin, Houston, Angelina, and Jasper counties in east Texas. These selections were chosen from among thirty collections for percent seed germination, survival, and reproductive stem numbers in comparative evaluations in 2017-2019. Equal amounts of seed from each selection were composited to produce Pineland Gold Germplasm swamp sunflower.

Conservation Uses

Pineland Gold Germplasm is recommended for NRCS conservation practices such as conservation cover (327), field border (386), and wildlife habitat planting (420). Swamp sunflower is a common understory forb in longleaf and shortleaf pine regions in the southeastern United States and is utilized by wildlife and pollinators throughout the year. It is browsed by whitetail deer, serves as a host plant for butterfly caterpillars, and provides pollen and nectar for native bees, honeybees, and fall migrating Monarch butterflies (*Danaus plexippus*).

Area of Adaptation and Use

Pineland Gold Germplasm is adapted to the area of original seed collections in eastern Texas in Major Land Resource Areas (MLRA) 133B and 152B in USDA Plant Hardiness Zones 8b and 9a. Further testing is needed to determine its adaptation in adjoining states and MLRAs.

Establishment and Management for Conservation Plantings

Plant swamp sunflower from December 1 to June 1 in a clean, weed free, firm seedbed with adequate moisture. A seed drill is the preferred planting method because it provides controlled planting depth and good seed- to-soil contact. This species is small seeded and may be best planted using the drill's legume box, if applicable. Plant seeds approximately 1/4 inch deep. Pineland Gold Germplasm has approximately 302,000 seeds per pound. Recommended seeding rate for monotypic stands is 4 PLS (pure live seed) lb/acre when drill planted. Broadcast seeding is another method if a drill is unavailable or site conditions are not favorable for its use. When broadcast seeding, increase the recommended seeding rate by 25% and mix seed with a carrier agent such as sand or cat litter to improve seed flow and distribution. Cultipack or lightly cover seed after planting to ensure good seed-to-soil contact. For seed mixes, adjust the seeding rate according to the desired percent of swamp sunflower in the mix. Mowing and pre-emergent herbicides are recommended to control weed competition. Contact your



Figure 1. Pineland Gold Germplasm swamp sunflower blooms.



Figure 2. Pineland Gold Germplasm seed.

local USDA NRCS field office for assistance developing a planting plan and your local agricultural extension office for herbicide recommendations.

Ecological Considerations

An Environmental Evaluation of Plant Materials Releases was completed using guidelines established by the NRCS and the best available information for this species. Swamp sunflower is a naturally occurring species in North America and release of Pineland Gold Germplasm for public use would not constitute introduction of a foreign species to local ecosystems. Pineland Gold Germplasm was selected from native stands of swamp sunflower and has had no genetic modification. It is believed that any negative impact to other native species would be minimal to nonexistent.

Seed and Plant Production

Seed production fields of Pineland Gold Germplasm can be started from transplants or direct seeding. The recommended row spacing is 40 inches with approximately 18 inches of space between plants within rows for either method. If equipment and facilities are available, growing transplants from seed and transplanting them in the spring is the preferred method of establishing Pineland Gold Germplasm seed production fields. Transplanting reduces the time needed to achieve a solid stand and allows use of pre-emergent herbicide to control weedy annual competition during establishment. When seeding 40- inch rows, the seeding rate is .25 lbs per acre. This rate places approximately 5 seeds per linear foot. Soil fertility should be amended based on soil test results for production of helianthus species. Pineland Gold Germplasm is indeterminate, and plants mature in November at the ETPMC. Harvest when seeds are easily threshed from the seed head but before shattering begins. Direct combining is the recommended harvesting method. Settings used at the ETPMC for harvest were a concave speed of 950 rpm with low air and concave spacing set at 9mm in the front and 4.5 mm in the rear. Scalp harvested material to remove stems and large debris. Spread the seed out on the floor or tarp then dry using fans to circulate air over the seed. Process seed using a cleaner with air adjustments and separation screens to remove chaff and unfilled seed. Use the following screen sizes as a starting point for cleaning; top screen - 8mm, middle screen 5 to 2mm, and bottom screen - 0.5mm. Seed material may require multiple cleaning with the middle screen progressed from 5 to 2mm with each cleaning operation. Store cleaned seed in a controlled environment of 50°F and 40% or less relative humidity. Seed yield the first year was 25 lb/acre and is expected to increase as the field matures.

Availability

Generation 1 (G1) seed will be distributed by the USDA NRCS East Texas Plant Materials Center, Nacogdoches, Texas. Growers may increase G2 and G3 seed for commercial sale. Increase of Prairie Gold Germplasm beyond G3 seed is prohibited. All G2 and G3 seed fields have a seven-year production limitation. All seed production fields of Prairie Gold Germplasm must be isolated from other increase fields or native populations of *Helianthus angustifolius* by a minimum of 450 feet.

Citation

Release Brochure for Pineland Gold Germplasm swamp sunflower (*Helianthus angustifolius*). 2021. USDA-Natural Resources Conservation Service, East Texas Plant Materials Center. Nacogdoches, 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 Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov>>

For more information, contact:

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<https://www.plant-materials.nrcs.usda.gov/etpmc/>



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