

Pineywoods Germplasm thickspike gayfeather

Liatris pycnostachya Michx.

Pineywoods Germplasm thickspike gayfeather (*Liatris pycnostachya* (Michx.)) is a selected class germplasm released in 2020 by the USDA NRCs East Texas Plant Materials Center (ETPMC).

Description

Thickspike gayfeather is a native, long lived perennial forb which reproduces by seed. Several stiff hirsute stems 23 to 47 inches tall arise from an underground corm. The alternately arranged leaves are 4 to 12 inches long and 0.15 to 0.4 inches wide. The cylindrical, spikelike inflorescence is 6 to 12 inches long and about 0.8 inches wide. The magenta flowers are 0.4 inches long and encased in green or purplish bracts. The seeds are 0.15 to 0.23 inches long, ribbed, and topped with fine bristles.



Figure 1. Pineywoods Germplasm Thickspike gayfeather foundation seed production field at the East Texas Plant Materials Center.

Source

Pineywoods Germplasm thickspike gayfeather was developed from seed collected from a native stand located in Montgomery County, Texas. The collection was assigned the accession number 9067351 and evaluated with 33 other collections in non replicated rows at the ETPMC from 2006-2007. Pineywoods Germplasm was selected because of better seedling vigor, plant vigor, seed production, and reduced lodging.

Conservation Uses

Pineywoods Germplasm is recommended for field borders, wildlife habitat, conservation cover, and restoration and management of declining habitat. Thickspike gayfeather is found in the long-leaf pine bluestem range making it a suitable species for use in longleaf pine understory restoration plantings. It provides pollinator habitat for honeybees, bumblebees, and Monarch and Swallowtail butterflies.

Area of Adaptation and Use

Pineywoods Germplasm is adapted to eastern Texas within MLRA 133B and USDA Hardiness Zone 8b. Further testing is needed to confirm its full range of adaptation and appropriate use.

Establishment and Management for Conservation Plantings

Plant seed in late winter or spring, December 1 through June 1, on a clean, weed free, firm seedbed with adequate moisture. A seed drill is the preferred method for planting. Drilling seed provides reliable seed placement and seed-to-soil contact. Plant seed approximately ¼ inch deep. Pineywoods Germplasm averages 178,000 seeds per pound. The recommended seeding rate is 2 pounds per acre for monotypic stands. Broadcast seeding is less reliable than drilling seed, but an acceptable means of planting. When broadcast planting, increase seeding rates by 25%, and cultipack or lightly cover the seed after planting to ensure good seed-to-soil contact. Mix seed with a carrier such as sand or cat litter to aid in seed dispersal. For seed mixes, adjust the rate according to the desired percentage in the seed mix. Mowing and pre-emergent herbicides are recommended for weed control, if needed, after establishment. Please contact your local agricultural extension office for herbicide recommendations.

Ecological Considerations

Seed is wind distributed and may invade adjacent area, however, the seedlings are easy to control. Thickspike gayfeather is susceptible to powdery mildew, root-knot nematodes, stem rot, and verticillium wilt.

Seed and Plant Production

Transplanting is the preferred method for establishing Pineywoods Germplasm seed production fields. Transplants establish quicker and allows the use of pre-emergent herbicides to reduce competition from weedy annual species during early establishment. Pineywoods Germplasm is indeterminate and begins to matures in October. Begin harvesting when the plumes are dry and fluffy. Flail vac harvesters or seed strippers are the preferred harvest methods because they offer the greatest potential for harvesting only mature seed with the opportunity for multiple harvests per year. Seed can be harvested with a combine but limits the harvest to once per year. Timing of the harvest and controlling the air on the combine is critical to maximize seed yields.

Dry the harvested seed by spreading on a concrete floor with fans blowing air over the seed. Once dried, store or process the seed by scalping with an air-screen cleaner to remove stems and large debris. Debearding the seed improves flow through finer seed clean equipment and planters. Use a seed cleaner with air adjustments and separation screens to remove chaff and unfilled seed. Store seed in a controlled environment maintained at a temperature of 50° F and 40% or less humidity. Breeder seed field at the ETPMC averaged 190 lb/acre over 5 years. Seed stored at 50° F with a relative humidity below 50% maintained 45% to 86% seed viability.

Availability

For conservation use: Seed will be available to the public and sold commercially from native seed dealers under the name Pineywoods Germplasm thickspike gayfeather.

For seed or plant increase: Breeder (G0) seed is available to growers for seed increase. Due to limited quantities of seed, growers are recommended to establish production fields from transplants. All commercial seed fields of Pineywoods Germplasm must be isolated from other cultivated varieties and wild populations of *Liatris* by a minimum of 900 feet or as stipulated by local state certified seed production guidelines. Pineywoods Germplasm may be grown for two generations (to G2, equivalent to Certified) beyond G0 seed. G1 and G2 seed fields have a seven-year production limitation.

For more information, contact:

**East Texas Plant Materials Center, 6598 FM 2782, Nacogdoches, Texas 75964
(936) 564-4873**

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

Citation

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