

Who We Are

The East Texas Plant Materials Center (ETPMC) is part of the Natural Resources Conservation Service (NRCS), United States Department of Agriculture. The ETPMC is a joint venture between Soil and Water Conservation Districts in east Texas and northwestern Louisiana, NRCS, Stephen F. Austin State University, and US Forest Service. The ETPMC is located at the Stephen F. Austin Experimental Forest. The Plant Materials Center serves 48.2 million acres in east Texas and northwestern Louisiana. The topography is diverse ranging from level floodplains to strongly sloping forestlands and prairies.

What We Do

The mission of the ETPMC is to develop and transfer plant knowledge to NRCS field offices and land managers in both private and public sectors. The Center emphasizes using native plants as a way to address conservation issues and protect native ecosystems. Adapted plants are evaluated and tested by Plant Materials Center personnel. After a plant has been chosen for release, the Plant Materials Center produces foundation material for release to commercial growers. The new plants are promoted through their use in field plantings and demonstration projects.

New Plant Collections for 2004

The PMC continued assembling collections of native species: pinkscale gayfeather, splitbeard bluestem, little bluestem, and pinehill bluestem. The NRCS Field Office personnel play an important part in collecting seed for these assemblies. The PMC would like to thank NRCS personnel for collecting seed in 2004. We plan to begin initial evaluations of these assemblies in the spring of 2005.



Gayfeather, *Liatris* spp.

Following are some highlights of the work being carried out at the Plant Materials Center.

Seeding Rate Study of 'Crockett' herbaceous mimosa and 'Harrison' Florida paspalum select germplasm releases

This was the first year of a seeding rate study for 'Crockett' herbaceous mimosa and 'Harrison' Florida paspalum. The objective of these studies is to determine the optimum pure live seeding rate for these species. The plots were planted in April. The experimental design for both studies is three randomized complete replications.

The pure live seeding rates per acre for herbaceous mimosa were 4 pls lbs., 7 pls lbs., 10 pls lbs., 13 pls lbs., and 16 pls lbs. The plots contained rows 8" apart to simulate drill planting. In

September, the number of plants per plot was counted. First year results indicated the seeding rate of 7 pls lbs. /acre was sufficient.

The pure live seeding rates per acre of Florida paspalum were 4 pls lbs., 6 pls lbs., 8 pls lbs., 10 pls lbs., and 12 pls lbs. The plots were again divided into 8 "row spacing. The number of plants per plot was counted in September. Results from the study indicated the seeding rate of 8 pls lbs. /acre was adequate for establishment. The studies will be repeated in 2005 and 2006.



'Crockett' germplasm herbaceous mimosa plant in study subplot during first year of growth.

Florida paspalum – avg. number of plants/ sq. ft.

	Replication 1	Replication 2	Replication 3	Avg./Rate
Rate 1	2.3	1.3	0.4	1.3
Rate 2	3.6	3	2.4	3
Rate 3	5.6	3.5	2.8	4
Rate 4	2.8	2.7	2.8	2.8
Rate 5	1.2	1.5	2.5	1.7

Herbaceous mimosa – avg. number of plants/sq. ft.

	Replication 1	Replication 2	Replication 3	Avg./ Rate
Rate 1	1.4	0.7	1.3	1.1
Rate 2	1.6	1.5	1.9	1.6
Rate 3	1.2	1.8	2.9	2
Rate 4	1.6	1.5	2.1	1.7
Rate 5	2.8	2.7	1.8	2.4

Cooperative Agroforestry Study with Arthur Temple College of Forestry - Stephen F. Austin State University



In east Texas and northwestern Louisiana, the poultry industry is a prominent part of the regional agriculture economy. Large amounts of poultry waste present a disposal problem for poultry growers. Currently, waste is applied to pastures and hayfields. High amounts of phosphorus in poultry waste are a concern to the Texas Department of Agriculture. Using fast growing trees in riparian areas would provide a filter area for trees to uptake phosphorus before it reaches water bodies.

In February 2003, an agroforestry project was commenced to address part of the phosphorus concern. The project is a cooperative effort with the Arthur Temple College of Forestry-Stephen F. Austin State University. A control plot and high phosphorus plot was established to determine if there will be a significant difference in growth between the plots. Six species of commercially available fast growing trees were planted in control (no phosphorus applied) and high phosphorus plots. The six species were: cottonwood (*Populus deltoids*), sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), black locust (*Robinia pseudoacacia*), and green ash (*Fraxinus pennsylvanica*). 2004 was the second year of basal diameter and height

measurements. The species that exhibited the most growth were the cottonwood, black locust, and sycamore.

Seed Production

The PMC maintains foundation seed fields for the following species:

- 'Medina' eastern gamagrass
- 'Jackson' eastern gamagrass
- 'Crockett' germplasm herbaceous mimosa select release
- 'Harrison' germplasm Florida paspalum select release

Seed and information about these species is available at the Texas Foundation Seed Service website (<http://tfss.tamu.edu>) or phone (940) 552-6226.

The PMC is cooperating with the Native Prairies Association of Texas to increase seed of the following species: little bluestem, indiagrass, switchgrass, big bluestem, and gulf coast muhly. These species are being increased for prairie restoration in southeast Texas.



Above: Harvesting 'Harrison' germplasm Florida paspalum

New Employees Training

The East Texas Plant Materials Center hosted two new employees training sessions in July and August. Approximately fifty people attended these sessions. The sessions included instruction on various conservation practices. They learned about the Plant Materials Program and became acquainted with agricultural equipment at the Plant Materials Center. During 2004, the Plant Materials Center provided facilities for Texas Forest Service and USDA/Natural Resources Conservation Service personnel.



Jim Stevens, PMC Manager, discusses the use of a subsoiler to new NRCS employees.

ETPMC Personnel and Earth Team Volunteers

- Jim Stevens – ETPMC Manager
- Melinda Brakie – Conservation Agronomist
- Tim Allen – Biological Technician

Student Worker

- Sarah Bogard

Earth Team Volunteers

- Kay and Jack Burnell
- Jean and Melvin Adams

**Plant Materials Program
Website:**

Plant-Materials.nrcs.usda.gov

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