

## East Texas Plant Materials Center 2005 Progress Report

---

6598 FM 2782

Nacogdoches, Texas

Phone: 936.564.4873

---

### **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 near Nacogdoches, Texas. The Center has use of 75 acres. Currently 26 acres are being used for evaluation plots and seed production fields. The Center is currently working with the US Forest Service to obtain special use permits and open additional acreage for production fields and evaluation plots.

### **What We Do**

The mission of the NRCS Plant Materials Program is to develop and transfer plant materials and plant technology for the conservation of natural resources. In working with a broad range of plant species, including grasses, forbs, trees, and shrubs, the program seeks to address priority needs of field offices and land managers in both public and private sectors. Emphasis is focused on using native plants as a healthy way to solve conservation problems and protect ecosystems. Center personnel also develop research projects and technical reports for use in developing technical guides for agency personnel and landowners on the use of plant materials in various conservation practices.

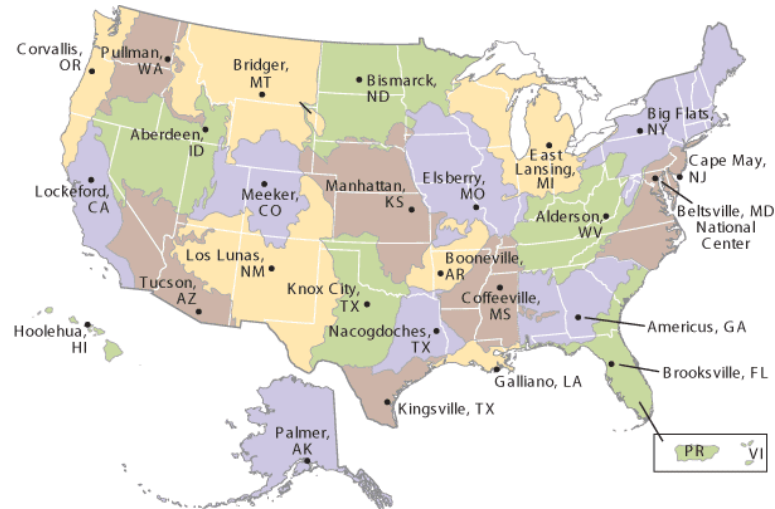
### **Priorities of the East Texas Plant Materials Center:**

PMC activities are directed to develop plant materials and corresponding technology for the following seven high priorities:

- Erosion control and improvement of water quality and quantity
- Domestic livestock and wildlife food and cover
- Revegetation, water quality improvement and erosion control following timber harvests.
- Revegetation and stabilization of surface mined areas
- Stream bank stabilization and frequently inundated bottomlands
- Saline areas and high water table soils
- Wetland environments using adapted herbaceous and woody aquatic species

## Service Area

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. Soils in the service area range from deep, coarse textured sands to heavy clay bottomlands. Average yearly rainfall amounts vary from 32 inches to 56 inches near the Gulf coast. Humidity and temperature are usually high during the growing season. The average growing season ranges from 228 days to 260 days from north to south. The Center is one of 27 USDA, Natural Resources Conservation Service, Plant Materials Centers strategically located across the nation. Centers are located to serve areas with similar soils, plants, and climate.



## Initial Evaluations

During 2002-2004, NRCS personnel in Texas and Louisiana collected seed of four native species, little bluestem, pinehill bluestem, splitbeard bluestem and gayfeather. The seed was planted to transplanting cones in March 2005. The plants were transplanted in June to initial evaluation blocks. The objective of each of these studies is to choose the best collections for conservation cover, wildlife habitat, and range planting. Following is a listing of the initial evaluation studies:



Splitbeard bluestem collection

- Initial Evaluation of little bluestem (*Schizachyrium scoparium*) accessions
- Initial Evaluation of pinehill bluestem (*Schizachyrium scoparium* var. *divergens*)
- Initial Evaluation of Splitbeard bluestem (*Andropogon ternarius*)
- Initial Evaluation of Gayfeather (*Liatris* spp.)

## Seeding Studies

'Harrison' Florida paspalum select germplasm and 'Crockett' herbaceous mimosa select germplasm are being evaluated on number of plants established per square foot and percent of canopy cover by various seeding rates. The objective of both these studies is to determine an optimum seeding rate for each release. This is a three year study that began in 2004. Information will benefit commercial seed growers and NRCS Field Office personnel.

## Cooperative Studies at the ETPMC

The Center cooperates with Stephen F. Austin State University. We are fortunate to have access to their professors, graduate students and facilities in developing and carrying out research projects. Three graduate students from Stephen F. Austin State University are carrying out part of their graduate course work at the Center.

- Allan Pringle and Dr. Ken Farrish, Arthur Temple College of Forestry and Agriculture, are studying phosphorus removal and biomass production from eight different sources of short rotation woody crop species.
- Kara Walker and Dr. Hans Williams, Arthur Temple College of



Forestry and Agriculture, are determining best and most feasible stratification and scarification methodologies to encourage quicker germination and establishment of Crockett herbaceous mimosa.

- Courtney Charba and Dr. Jo Taylor, Biology Department, are working on rust in Indiangrass and the physiological and growth effects on the grass.



## PMC Releases

**'Medina' eastern gamagrass**, *Tripsacum dactyloides*, is a native warm season perennial grass. Medina is recommended for livestock forage, conservation buffers, and restoration of natural areas. Medina is best adapted to central Texas, eastward to Louisiana, Mississippi and Georgia. The plant is adapted to fine, medium, or coarse soils. Deep sandy soils are not recommended.

**'Jackson' eastern gamagrass** is a native warm season perennial grass. This cultivar is recommended for livestock forage, conservation buffers, and restoration of natural areas.

**Crockett herbaceous mimosa select germplasm release.** Herbaceous mimosa, *Mimosa strigillosa*, is a native warm season perennial legume found throughout the southeastern United States. 'Crockett' is recommended for revegetation of disturbed areas, road cuts, construction sites, and surface mine reclamation.

**Harrison Florida paspalum select germplasm release.** Florida paspalum, *Paspalum floridanum*, is a native warm season perennial grass. Florida paspalum seed is eaten by quail, doves, and turkey. The grass is palatable in the leafy stage, but becomes less palatable as it matures. Harrison is recommended for wildlife food/cover, mine reclamation, prairie restoration, and as a component of native grass forage mixes.

## **Weather Has Major Impact in 2005**

Mother Nature was not favorable to East Texas in 2005. A drought to rival the drought of the 1950s occurred. Rainfall measured at the ETPMC was 18.5 inches below our average yearly rainfall. The shortage occurred during the growing season between June and November and effected plant growth and seed production. Hurricane Rita struck East Texas, on September 24, with the eye of the storm passing approximately 30 miles east of the Center. The Center fared better than many in the East Texas area. Our damage was limited to several downed trees causing a week of power outage and panels being blown out of the greenhouse and shingle damage to out buildings.

## **Tours and Presentations**

| <b>Date</b> | <b>Audience</b>                      | <b>Information</b>        | <b>Presenter(s)</b>     |
|-------------|--------------------------------------|---------------------------|-------------------------|
| 10/07/2004  | Texas Parks & Wildlife               | 2004 fall collections     | M. Brakie               |
| 10/13/2004  | NRCS Field Office personnel          | plant collections         | M. Brakie               |
| 10/14/2004  | Limited Resource Producers           | vetivergrass information  | M. Brakie               |
| 11/18/2004  | Community Based<br>Organizations     | tree planting             | J. Stevens              |
| 02/02/2005  | Society of Range Management          | restoring native grasses  | J. Stevens<br>M. Brakie |
| 04/18/2005  | SFASU Forestry Students              | PMC Studies               | J. Stevens<br>M. Brakie |
| 04/20/2005  | SFASU Forestry Students              | PMC Studies               | J. Stevens<br>M. Brakie |
| 05/26/2005  | East Texas PMC Board of<br>Directors | PMC Studies               | J. Stevens<br>M. Brakie |
| 06/28/2005  | SFASU Students                       | importance of soils       | J. Stevens              |
| 06/29/ 2005 | Teachers                             | soils and plant materials | J. Stevens              |



April 2005 – SFASU Forestry  
Students tour the PMC

## **Publications**

- 2004 PMC Activity Report                      May 2005                      M. Brakie
- 2004 PMC Technical Report                      May 2005                      J. Stevens and M. Brakie
- ETPMC Newsletter                              April 2005                      J. Stevens and M. Brakie
- Dry Matter Yields of Eastern gamagrass Accessions from 1992 to 1994 at the East Texas Plant Materials Center                      August 2005                      M. Brakie
- Seeding Rate and Establishment of Crockett germplasm herbaceous mimosa select release (first year)                              August 2005                      M. Brakie
- Plant Attributes for Eight Grass Species for Use in vegetative Barriers for east Texas and western Louisiana                              2005                              J. Stevens

The East Texas Plant Materials Center hosted several Natural Resources Conservation Service, US Forest Service, Texas Forest Service, and Texas Soil and Water Conservation District training and educational functions.

## **Staff**

Jim Stevens – Plant Materials Center Manager  
Melinda Brakie – Asst. Manager/ Soil Conservationist  
Tim Allen – Biological Technician (Plants)

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer