



# Year 2001 Progress Report of Activities



Issued March 2002

James E. 'Bud' Smith Plant Materials Center, Knox City, Texas

3776 FM 1292, Knox City, Texas 79529, Tel: 940-658-3922, FAX: 940-658-3047

## Who We Are

The James E. "Bud" Smith Plant Materials Center (PMC) at Knox City, Texas, was established in 1965 and is one of 26 Centers located throughout the United States. The Center is responsible for developing conservation plants and cultural techniques for use on targeted Major Land Resource Areas (MLRA) in Texas and Oklahoma.

The area served in Texas includes all or portions of nine MLRAs ranging in size from 800,000 acres to over 23 million acres. The area served in southwestern Oklahoma comprises parts of five MLRAs in 27 counties totaling over 16 million acres.

The Center is located approximately 4 miles NW of Knox City, Texas, in the Rolling Red Plains Land Resource Area.

The mission of the Plant Materials Program is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. Plant and technology development objectives of the Knox City PMC include:

- Erosion Control - wind and water
- Range and Pasture Improvement
- Wildlife Habitat Improvement
- Water Quality

Following is a highlight of some of the activities of the Knox City PMC for 2001.

## Plant Materials and Buffers

**Riparian Herbaceous Buffer Demonstration Site**  
Working with the Mason County Soil & Water Conservation District, the Hill Country RC&D Council, the Mason High School Horticulture Class, and the local Natural Resources Conservation Service office the Plant Materials Center cooperated in the development of a riparian herbaceous buffer demonstration site on the James River, located approximately 25 miles southwest of Mason, Texas.



Funded by monies received through an EQIP Educational Grant the site will be used to educate landowners on the use of riparian buffers adjacent to rangeland. The Plant Materials Center supplied seed of San Marcos Germplasm eastern gamagrass, 'Alamo' switchgrass, and 'Aztec' Maximilian sunflower to the Mason HS Horticulture Class who grew transplants of the plants for the site. The Horticulture Class planted and cared for the seedling transplants in the high school greenhouse until they were transplanted to the site.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age disability, political beliefs, sexual orientation, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audio tape, 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 326W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

The Mason County Soil & Water Conservation District, the Hill Country RC&D Council, and the Natural Resources Conservation Service will host education tours when the site is established.

### **2001 Farmer Stockman Show-Buffer Demonstration Tent**

The annual Farmer-Stockman Show at Lubbock, Texas attracted 35,000 people with firsthand observation of harvest and field preparations with the latest implements for each and a live buffer strip. The buffer strip included a walkway in the middle representing a creek, and the buffer strips on each side under a tent sponsored by the Big Country RC & D, which the Plant Materials Center from Knox City participated in the last four years.

At the initial stage of this demonstration the Plant Materials Center provided transplants such as 'Earl' big bluestem, San Marcos Germplasm eastern gamagrass, 'Aztec' Maximilian sunflower and 'Alamo' switchgrass to transplant on existing native grass species. The past four years the buffer strip is maintained by mowing when dormant and irrigated during the summer months to have an adequate growth for the show.



The idea for this demonstration was to focus on buffer strips that would border riparian areas and utilizing a management practice for grazing, during its growing period and wildlife habitat during the winter months. In cropland, buffers could retain and improve soils and cleaning water by reduced sediment, fertilizer and pesticides through filtering. Information was also given on the procedure for signing up for buffer strips through, EQIP, WHIP and the continuous CRP.

Overall, in the three days of this event a presentation was given by the NRCS and Plant Materials Center personnel on the benefits of buffer strips incorporated with best management practices.

### **Native Plant Restoration Projects**

Too often, introduced species from around the globe have been the first choice of reseeding projects. Use of non-native species in revegetation efforts has, and will continue to have, negative long-term ecological, cultural and economic impacts. The lack of locally adapted native plant materials is a major obstacle for landowners, land managers, and public entities hoping to reap the benefits of using native species. The **North Texas Native Plant Restoration Project** (NTNPRP) was initiated in response to the growing demands from public and private sectors to utilize locally adapted native species for restoration and/or revegetation projects in north Texas.

In 2001 the Knox City Plant Materials Center along with other representatives of state and federal agencies as well as numerous private landowners and individuals came together to develop short and long term goals to facilitate the development of commercial sources of native plant materials for ecoregions in North Texas.

Partners include:

Botanical Research Institute of Texas  
EPA-Environmental Defense  
Fort Worth Nature Center  
Native Plant Society of Texas  
Native Prairie Association of Texas  
TAMU Ag Extension  
TCU Ranch Management  
The Nature Conservancy  
The Noble Foundation  
Texas Department of Transportation  
Texas Farm Bureau  
Texas Parks & Wildlife  
University of North Texas  
USDA, NRCS  
US Fish and Wildlife Service  
US Forest Service, Caddo-LBJ National Grasslands  
Warner Brothers Seed Company

## Conservation Plants for the National Park Service

Back in 1989 the National Park Service (NPS) and the Knox City Plant Materials Center (PMC) entered into an agreement whereby the PMC would collect and increase certain native plants growing within parks and provide seeds/plants back to the parks for use on roadsides and other revegetation projects.

Current status of NPS agreements in FY2001

### Big Bend National Park, Texas

In 2001 a new agreement was signed between the Park and PMC to fund supplying the Park with seeds to revegetate areas disturbed following invasive plant removal. Road construction phases in BBNP are currently on hold pending planning and additional funding.

### Chickasaw National Recreation Area, Oklahoma

The projects between the PMC and CNRA are still ongoing. The **Veterans Lake Area, Point Campground** and the **Perimeter/Point Areas** are still under construction for new roads and renovating picnic sites. With the three Park areas under construction the last two years, contract should expire by the end of September 2002, if weather cooperates. In the mean time NRCS/PMC personnel collected woody seeds and cuttings to propagate for the park areas, once construction has completed. Native grass and forb seeds had been collected and are growing at the PMC for seed production. These plant materials will be delivered to the three Park areas to seed or transplant where construction has been applied.

In early 2001, a new agreement was signed and approved for collecting and growing trees for the park wide area and will expire by the end of September 2003. PMC personnel will collect woody seeds or cuttings for propagation and deliver to the Park. The park requested ten different woody species for a total of 1,000 trees. This will add aesthetic and shade for different areas of the park.

## Up and Coming Releases

The Plant Materials Center is in the process of completing documentation for several new releases of conservation plants. The new releases including three grasses (little bluestem, sand bluestem, and Arizona cottontop), two native legumes (velvet bundleflower and purple prairie clover), and one woody species (little walnut) all have characteristics that will make them useful in addressing conservation problems.



**Sand bluestem**, *Andropogon hallii* is a native, perennial, warm-season grass that grows principally on sandhills and in deep sandy soils in the Central Rolling Red Plains and Southern High Plains of Texas and Oklahoma. Sand bluestem replaces big bluestem on sandier soils in western Texas and SW Oklahoma. This grass species can be planted in pure stands or as a component in a seed mix. Possible uses of sand bluestem include CRP or EQIP planting on sandy soils, dune stabilization, herbaceous wind barrier, rangeland improvement, and pasture or hayland plantings. The selection of sand bluestem being developed for release was originally collected in Cottle County, Texas and has an accession number of 9031498.

**Little bluestem**, *Schizachyrium scoparium*, is a native, perennial, warm-season, bunchgrass. Little bluestem is widely distributed throughout the US except Washington, Oregon and California. Little bluestem may be used in pure stands for pasture and hay plantings or as a component in seed mixtures for range seeding. Its forage value is fair to good while young and tender. After heads mature, forage

is fair for cattle and horses. As with all native range grasses it must be managed accordingly to avoid overgrazing. Wildlife can utilize the plants and seed for food. The plants provide good ground nesting cover for quail. Little bluestem maybe utilized in filterstrips, field borders, contour buffer strips, and riparian forest buffers for nitrogen and phosphorus uptake, and erosion control. The selection of little bluestem being developed for release is a composite of 5 accessions from native stands from Caddo, Grady, Jefferson, Stephens and Washita counties of Oklahoma it carries the accession number of 9029926.



**Arizona cottontop**, *Digitaria californica*, is a native, perennial, warm-season, bunchgrass that is common to the southwestern US from Arizona to Colorado, south to Texas and northern Mexico. Arizona cottontop grows best on gravelly and sandy loam soils. This grass species can be planted in pure stands or as a component in a seed mix. Possible uses of AZ cottontop include CRP or EQIP plantings, and rangeland improvement. Its forage value is good and most palatable when plants are green. It will cure well and provide adequate dry forage for cattle. It must be managed accordingly to avoid overgrazing. Wildlife can utilize the plants for food and cover. Selection PMT-389 Arizona cottontop was placed into the open market for production back in the late 60's. This selection was never formally released. Plans include formally releasing PMT-389 as a select class of certified seed.

**Velvet bundleflower**, *Desmanthus velutinus*, is a native perennial, warm-season legume. It is native throughout central and west Texas, and is an important component of range sites in these areas. It is valuable as a wildlife food and cover species.

Velvet bundleflower may be include in CRP or EQIP plantings, and range seeding mixes. The selection of velvet bundleflower scheduled for release was originally collected near Hondo, Texas, and has a PI number of 477961.

**Purple prairie clover**, *Dalea purpurea*, is a native perennial, warm-season legume. It is native throughout central and west Texas, and is an important component of range sites in these areas. Purple prairie clover has high quality forage that makes the plant desirable for all classes of livestock and wildlife. Purple prairie clover may be include in CRP or EQIP plantings, and range seeding mixes. This selection of purple prairie clover was originally collected near Cuero, Texas, and has a plant introduction number of PI-441183.

**Little walnut**, *Juglans microcarpa*, is a native medium height tree that occurs along riparian zones from central Texas up through the Great Plains into Kansas. Little walnut makes an excellent tree for use in windbreaks and for wildlife habitat restoration. This selection of little walnut was originally collected near Hays, KS, and has a plant introduction number of PI-477965.

