

James E. “Bud” Smith Plant Materials Center 2011 Progress Report of Activities



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

Evaluating Warm Season Grasses for Winter Stockpiling



Limited information is available on the quality and quantity of native pastures throughout the fall and winter months in the rolling plains of Texas and north eastern Texas. This new study will compare six warm season grasses and evaluations will be made on nutritional value and yield potential as the grasses grow through the fall months and weather into winter. The test will also evaluate the differences in grazing these grasses during the spring and early summer as opposed to letting them rest all summer. The grasses being evaluated are ‘Alamo’ switchgrass, *Panicum virgatum*; ‘Lometa’ Indiangrass, *Sorghastrum nutans*; San Marcos germplasm eastern gammagrass, *Tripsacum dactyloides*; ‘WW-BDAHL’ old world bluestem, *Bothriochloa ischaemum*; ‘Selection 75’ kleingrass, *Panicum coloratum*; and OK select germplasm little bluestem, *Schizachyrium scoparium*. The goal of this study is to provide field offices with information on whether stockpiling warm season grasses for winter grazing would be as efficient as baling pastures and feeding hay.

Plant Architectural Measurements for Conservation Planning Tool

Conservation planning tools are critical to the success of conservation programs. These tools give the field offices technical information when planning conservation practices for farmers and ranchers. The purpose of this study is to measure different plant characteristics, such as height, stem diameters, and yield per acre, in order to populate this planning tool with accurate data that is specific to this region. This gives field offices better information on the capabilities of a specific species in their service area.



Intercenter Strain Trial of Arizona Cottontop

Arizona cottontop is a native, perennial bunchgrass that contributes considerable range forage in the Southwest, from southern Colorado to Texas, Arizona, and northern Mexico. Currently, Arizona cottontop has multiple releases and accessions, either in commercial production, recently released, or under current development. Intercenter strain trials are designed to refine and strengthen our understanding of these plants performance over broad geographic areas and further improve our recommendations for conservation use. The table below shows the comparison between the three releases during the 2009-2010 and 2010-2011 growing seasons.

Entry	Release Location	Biomass Yield lbs/acre	Seed Yield Total lbs/acre
Loetta	Tucson, Arizona PMC	2032	234
PMT-389	James E. "Bud" Smith PMC	2403	196
La Salle	Kika de la Garza PMC	1767	162

New Collections

The PMC is collecting twelve native, perennial plant species for evaluation in various conservation uses. The species are:

- Plains lovegrass (*Eragrostis intermedia*)
- Roundhead lespedeza (*Lespedeza capitata*)
- Three-flower melic (*Melica nitens*)
- Showy menodora (*Menodora longiflora*)
- Texas cupgrass (*Eriochloa sericea*)
- Prairie bundleflower (*Desmanthus leptolobus*)
- Hall's Panicum (*Panicum hallii*)
- Switchgrass (*Panicum virgatum*)
- Scurfpea (*Psoralea tenuiflora*)
- Narrowleaf globemallow (*Sphaeralcea angustifolia*),
- Knotgrass (*Paspalum distichum*)
- Smartweed (*Polygonum pennsylvanicum*)

For more information on these plant species, see the website at http://www.tx.nrcs.usda.gov/technical/pmc/plant_collection_11.html and click on James E. "Bud" Smith PMC. These plant species will be evaluated for potential use in conservation practices such as Range Planting, Upland Wildlife Habitat Management, Conservation Cover Riparian Herbaceous Cover, and others.

Prescribed Burn Training



Once again, the plant materials center was able to host prescribed burn training, allowing employees to gain valuable experience conducting prescribed burns. The PMC provided small acre areas that could be burned as practice before attendees conducted large scale burns in the field. The small blocks gave participants the opportunity to conduct burns under different situations such as fuel load, avoiding obstacles, and monocultures compared to range or pastures.

New Employees Tour PMC Facility



A group of new employees took the opportunity to travel to Knox City and tour the plant materials center. The group learned the basic objective and goals of this PMC as well as the objectives of the entire plant materials program. Presentations were given on seed classification, seed collection, harvest and cleaning of production fields, and other normal daily operations. The group had the opportunity to see the specialized equipment used at the PMC to provide valuable information to them in the field office.

New Infrastructure at PMC



Many new infrastructure projects have been completed or scheduled for completion in the near future. New buildings were needed to provide adequate space and protection for new equipment. The new research equipment will allow the staff at the PMC to deliver new and updated technology to the field offices and seed industry as well as improve efficiency at the center.

Seed Production

The PMC is responsible for producing breeder seed of cultivar releases and G0 seed of germplasm releases which is distributed by the Texas Foundation Seed Service to area seed companies. A full list can be obtained from their website at <http://tfss.tamu.edu> or by calling them at (940) 552-6226. Currently, the PMC maintains and supplies seed for twenty-eight releases. These releases include grasses, legumes, forbs, and woody plants. A complete list of plant releases can be found at our website at <http://PlantMaterials.nrcs.usda.gov/txpmc/>.



Program Emphasis

The mission of the James E. “Bud” Smith PMC is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. The PMC conducts plantings and studies at the Center and off center with cooperating partners. Plant and technology development objectives of the PMC include:

- Erosion Control - wind and water
- Range and Pasture Improvement
- Wildlife Habitat Improvement
- Water Quality Improvement on Agricultural Land
- Biofuels
- Saline Site Restoration

James E. “Bud” Smith Plant Materials Center

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) James E. “Bud” Smith Plant Materials Center (PMC) located near Knox City, Texas, was established in 1965. It is one of the 27 Centers located throughout the United States. The Center is responsible for developing conservation plants and cultural techniques for use within targeted Major Land Resource Areas (MLRA) in Texas, Oklahoma, Kansas, Colorado, and New Mexico. The Center is also responsible for producing Breeder and Foundation seed of plant releases and assisting in commercial development and promoting their use in natural resource conservation. The PMC serves all or portions of 136 counties in Texas that comprises parts of 25 MLRAs, and the areas served in all or portions of 39 counties in southwestern Oklahoma comprising parts of thirteen MLRAs. The PMC also serves a portion of seven counties in southwestern Kansas including parts of four MLRAs, a portion of one county in the southeastern corner of Colorado comprising parts of three MLRAs, and a portion of seven counties in eastern New Mexico comprising parts of seven MLRAs. The PMC is located approximately four and a half miles northwest of Knox City, Texas, in the Rolling Red Plains MLRA.



James E. “Bud” Smith PMC Personnel

- Dr. Gary Rea- Manager
- Brandon Carr- Soil Conservationist
- Randy Kuehler- Biological Science Technician (Plants)

Visit the PMC website for more information and publications:
<http://Plant-Materials.nrcs.usda.gov/txpmc/>

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