



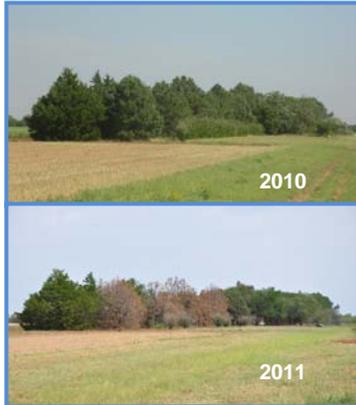
## Soil Health Demonstration Plots

The plant materials center is working with the Texas state agronomist to establish cover crop demonstrations which will provide valuable information and training opportunities for field office staff and the general public. The demonstration plots will compare different farming techniques used throughout our service area. Two demonstration blocks will use cotton as a summer cash crop, and then compare the soil health between a winter cover mix, a monoculture cover, and conventional tillage. One block will be irrigated and the other will be dryland. The third demonstration will use wheat as a cash crop, and then compare a summer cover mix, monoculture cover and conventional tillage. The goal is to provide technical methods to improve soil health using the main crops grown in the service area. We also hope to learn which species work best in cover crop mixes in order to demonstrate the advantages of using cover crop systems. Some of these advantages include:

- Added Organic Matter
- Reduce soil erosion
- Provide nitrogen
- Improve soil structure (Aggregation, Infiltration, Available Water Capacity)
- Provide weed control
- Manage nutrients
- Furnish moisture conserving mulch (lower surface temperatures)
- Provide habitat for beneficial organisms (soil food web)



## Effects of Record Heat and Minimal Moisture on Established Wind Breaks



Last year's record drought provided an opportunity to observe life spans and hardiness of established wind breaks. Overall the center lost over 100 different trees. The loss can be contributed to several different factors including:

- Record low rainfall amounts
- Record high temperatures
- Insect pressure
- Age of trees

Observations so far have shown that some species of trees are more susceptible to these factors in the environment at the center. We are working on a detailed summary of the species affected and which factors contributed to the tree deaths. As we get into 2012, the mortality of trees may continue to increase.

## Standing Hay for Winter Grazing Study

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 Collection List

We have received many plant collections from field offices and individuals and are extremely thankful to each one that has taken the time to collect and send seed to us. Plants we are still collecting are:

- Prairie bundleflower, *Desmanthus leptolobus*
- Showy menodora, *Menodora longiflora*
- Smartweed, *Polygonum pensylvanicum*
- Texas cupgrass, *Eriochloa sericea*
- Threeflower melic, *Melica nitens*
- Roundhead lespedeza, *Lespedeza capitata*
- Hall's Panicum, *Panicum hallii*
- Plains lovegrass, *Eragrostis intermedia*
- Scurfpea, *Psoralea tenuiflora*
- Switchgrass, *Panicum virgatum*
- Narrow Leaf Globemallow, *Sphaeralcea angustifolia*



## 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 Objectives of the PMC	
1	Wind and Water Erosion Control
2	Range and Pasture Improvement
3	Wildlife Habitat Improvement
4	Water Quality Improvement on Agricultural Land
5	Biofuels
6	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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