



James E. "Bud" Smith Plant Materials Center

2023 Progress Report of Activities

November 2023

The mission of the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plant Materials Program and the James E. "Bud" Smith Plant Materials Center (TXPMC) is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs by conducting plantings, studies, and evaluations throughout the assigned conservation-resource areas.

Plant and technology development objectives of the James E. "Bud" Smith Plant Materials Center

Soil Health	Saline Site Restoration
Wildlife Habitat Improvement	Range and Pasture Management
Wind and Water Erosion Control	Water Quality Improvement on Agricultural Land
Support Climate Smart Agriculture Initiatives	Support and Train Local Field Office Staff



The James E. "Bud" Smith Plant Materials Center, established in 1965, is located 5.5 miles northwest of Knox City, Texas, in the Rolling Red Plains Major Land Resource Area (MLRA) and is one of twenty-five federally funded Plant Materials Center across the nation.

PLANT COLLECTIONS

The TXPMC relies heavily on field office staff to assist with plant collections used in our evaluations. These materials ensure that future plant releases represent a broad area of adaptation. Currently, the TXPMC is collecting the following native plant species for conservation use:

- Indian blanket (*Gaillardia pulchella*)
- Golden prairie clover / golden dalea (*Dalea aurea*)



Indian blanket (Credit: Norman G. Flaigg, Lady Bird Johnson Wildflower Center)



Golden dalea or golden prairie clover (Credit: Campbell and Lynn Loughmiller, Lady Bird Johnson Wildflower Center)



PUBLICATIONS

NRCS Technical Note No: TX-PM-23-01 (August 2023)

“Directory of Conservation Seed Vendors for Texas”

The James E. “Bud” Smith Plant Materials Center, in conjunction with the East Texas Plant Materials Center in Nacogdoches, Texas, and the E. “Kika” de la Garza Plant Materials Center in Kingsville, Texas; developed a comprehensive and thorough seed and plant vendor directory to serve as reference to conservationists, reclamation and restoration specialists, and other professionals in locating vendors of plant materials recommended within the Texas NRCS state seeding table. Plant species are broken into two lists, grasses and forbs/shrubs/trees, and listed in alphabetical order by common name.

For direct access to this technical note: <https://nrcs.usda.gov/plantmaterials/txpmctn14068.pdf>, and for additional vendors of plants not mentioned in this directory go to the Plant Materials Program website at <http://Plant-Materials.nrcs.usda.gov>.

Awnless bushsunflower (*Simsia calva*)

Bamert Seed Company	1897 CR 1018 Muleshoe, TX 79347	800.262.9892	www.bamertseed.com
Curtis and Curtis, Inc.	4500 N. Prince, Star Route Clovis, NM 88101	575.762.4759	www.curtisseed.com
Douglas King Seed Company	4627 Emil St San Antonio, TX 78219	210.661.4191	www.dkseeds.com
Turner Seed Company	211 CR 151 Breckenridge, TX 76424	800.722.8616	www.turnerseed.com

Awnless bushsunflower vendors listed in the NRCS Technical Note No: TX-PM-23-01 developed by the Texas Plant Materials Centers.

STUDIES

Evaluation of Hairy Vetch and Crimson Clover Varieties in the Texas Red Rolling Plains to Increase Germplasm Resources

The James E. “Bud” Smith Plant Materials Center is going into the fourth year partnering with the USDA-Agricultural Research service (ARS), numerous universities, and other USDA-NRCS PMCs across the U.S. to evaluate superior lines of hairy vetch (*Vicia villosa*) and crimson clover (*Trifolium incarnatum*). The purpose of this collaborative project is to evaluate legume cover crop germplasm selections from previous breeding efforts to identify the top performers in differing climatic and agronomic environments. Once these legumes are released, NRCS will incorporate them into their cover crop practice standard (Code 340).

In fiscal year (FY) 2023, TXPMC evaluated 27 hairy vetch genetic lines and 12 crimson clover genetic lines. These germplasms will be evaluated again in FY 2024 to advance cover crop germplasm



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resources. All collected data were released to the USDA-ARS in Madison, Wisconsin, for further analysis.



Collaborative adaptability evaluation of hairy vetch and crimson clover at the James E. "Bud" Smith Plant Materials Center near Knox City, Texas. Pink flags indicate the tractor drive rows and mark each individual plot under genetic evaluation. Photo courtesy of Dustin Wiggans.

Characterizing Cereal Rye and Crimson Clover Varieties

The objective of this project is to further evaluate and characterize cereal rye varieties Elbon, Maton, Maton II, Oklon, Prima, and Wrens Abruzzi; and to evaluate and characterize crimson clover varieties AU Robin, AU Sunrise, Dixie, and Kentucky Pride as these varieties showed the most promise in North-Central Texas and Southwestern Oklahoma during a previous cover crop adaptation trial [[Plant Materials](#)



Sunrise over cereal rye at the James E. "Bud" Smith Plant Materials Center near Knox City, Texas. Photo courtesy of Dustin Wiggans.

[Technical Note No. 3, Evaluation of Cool Season Cover Crops in the South-Central Region, May 2020](#)].

Further evaluation and characterization of these varieties is needed to support NRCS [Cover Crop conservation practice standard \(Code 340\)](#) and will solidify future recommendations when addressing resource concerns. Evaluations include above ground biomass production, percent canopy cover via



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visual estimation (Canopeo App), plant height, spring green-up, nitrogen content, and carbon-to-nitrogen ratio (C:N).

TRAINING

Planter Calibration and Plant Materials Center Overview (March 2023)

The James E. “Bud Smith Plant Materials Center provided hands-on planter calibration training to approximately forty USDA-NRCS-Texas personnel in San Angelo, Texas. This training provided new NRCS employees an opportunity for in-depth discussions and real-world experiences in learning the nuances and procedures one may encounter when dealing directly with producers in their areas of responsibility.

Contact TXPMC, via the proper chain-of-command, should any training be desired for USDA-NRCS-Texas employees.



James E. "Bud" Smith Plant Materials Manager, Brandon Carr, and Agronomist, Dustin Wiggans, field questions from NRCS personnel during training in San Angelo, Texas. Photo courtesy of Wade Day.



USDA-NRCS-Texas staff participate in hands-on-training provided by the James E. "Bud Smith Plant Materials Center in San Angelo, Texas. Photo courtesy of Dustin Wiggans.

Knox City Elementary Second Grade Class Visits the James E. “Bud” Smith Plant Materials Center (March 2023)

Every spring, TXPMC enjoys a visit by the local second grade class from Knox City Elementary. This is the perfect time to start teaching younger generations about plants, bugs, dirt, and tractors. The second graders spend a couple of hours asking questions and touring the farm to learn how producers can increase biodiversity and promote conservation. “Their favorite part is ‘dissecting’ plants and playing in the dirt,” states their teacher.



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Washington, D.C. 20250-9410
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