

2005



United States Department of Agriculture
Natural Resources Conservation Service

Progress Report of Activities

Issued April 2006

Manhattan, Kansas, Plant Materials Center

3800 South 20th Street, Manhattan, KS 66502 Tel: (785) 539-8761 FAX: (785) 539-2034

Web site: <http://www.plant-materials.nrcs.usda.gov>



SEEKING VEGETATIVE SOLUTIONS TO CONSERVATION PROBLEMS

Who We Are

The Manhattan Plant Materials Center (PMC) is one of 27 centers nationwide that uses plants to solve natural resource problems. The PMC is owned and operated by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS). The PMC services a diverse region of the heartland including Kansas, Nebraska, northern Oklahoma, and northeastern Colorado. It is located on 169 acres of sandy loam soil in the Kansas River Valley, south of Manhattan, Kansas.



What We Do

The mission of the Plant Materials Program (PMP) is to develop and transfer state-of-the-art plant science technology to meet customer and resource needs. This includes the production of improved varieties of plants for commercial use and the development of plant science technology for incorporation into the electronic Field Office Technical Guide (eFOTG). Plant and technology development objectives of the PMC include:

- Water quality improvement
- Erosion control
- Range and pasture improvement
- Native American outreach
- Plant variety selection and production

Program Highlights for 2005

Foundation Seed Production

The PMC maintains a variety of native grass and forb fields for foundation seed production. Native grass varieties include:

- Kaw big bluestem
- Pete eastern gamagrass
- Osage Indiangrass
- Aldous little bluestem
- Cimarron little bluestem
- Pronghorn prairie sandreed
- Bend sand lovegrass
- El Reno sideoats grama
- Blackwell switchgrass
- Kanlow switchgrass
- Barton western wheatgrass



Blue grama harvest



Midas false sunflower

Native forb varieties include:

- Midas false sunflower
- Sunglow grayhead prairie coneflower
- Prairie Gold Maximilian sunflower
- Nekan pitcher sage
- Kaneb purple prairie clover
- Kanoka round-head lespedeza
- Eureka thickspike gayfeather
- Reno Germplasm Illinois bundleflower
- Riley Germplasm Showy partridge pea

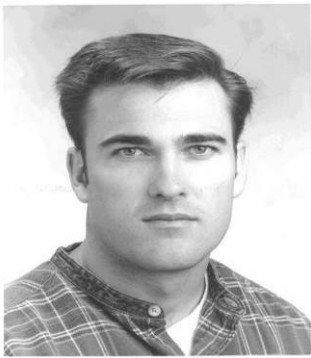
Common Buttonbush Selection

On April 20, 2005, the PMC Staff selected 12 accessions from a pool of 36 that had been under evaluation for the past five years. The selected plants were lifted with a tree spade and moved to a breeder's block. Plant selection criteria focused on plant growth characteristics, such as form, plant vigor, blooming period, insect resistance, and winter injury.



Program Highlights for 2005

Career Intern, R. (Alan) Shadow, Joins Plant Materials Staff



R. (Alan) Shadow joined the Manhattan PMC Staff on July 11, 2005. A native of Louisiana, Alan earned a bachelor's degree in biochemistry from Louisiana State University (LSU)/Shreveport, Louisiana, in 1995 and started work with the LSU AgCenter at the Red River Research Station, Bossier City, in February 1996. There he conducted variety and row-space tests on corn, soybeans, wheat, oats, and grain sorghum. He also headed the aflatoxin testing lab for Red River before transferring to the LSU Agronomy Department in Baton Rouge to work on coastal restoration and pursue a master's degree. Alan worked on the genetic improvement of *Spartina alterniflora* via selections of superior wild plants and crossbreeding to aid in the restoration of coastal salt marsh. He also worked jointly with Gary Fine, Manager of the Golden Meadow PMC, on a variety of re-vegetation projects and wetland plants in south Louisiana. In May 2005, he earned a master's in agronomy with an emphasis in wetland management and science and accepted a career intern position with the NRCS in Manhattan, Kansas. Alan is learning through this program the role the PMP plays in conservation, and the necessary activities that keep a center active. He had the opportunity to meet with many of the NRCS Central Region PMC managers and specialists by attending the NRCS Central Region Plant Materials Workshop and is working toward increasing his knowledge of plant species and seed technology. Currently, he is involved in the genetic improvement of giant sandreed, *Calamovilfa gigantean*, and rhizomatous switchgrass, *Panicum virgatum*. This work is designed to reduce seed dormancy and decrease the amount of time needed to establish these species from seed.

Central Region Plant Materials Workshop

The Central Region PMP held a three-day workshop in Manhattan, November 15-17, 2005, at the Kansas State University (KSU) Student Union. Harold L. Klaege, State Conservationist, Salina, Kansas, welcomed the workshop participants and encouraged the PMP to continue delivering high quality technology that can be quickly accessed and understood by field offices. Ronald C. Williams, Director, Central National Technology Support Center (CNTSC), Fort Worth, Texas, challenged the PMP to be visionary in addressing emerging needs and to explore new opportunities for the role of plants in bioenergy, nutrient management, and air quality. Robert T. Escherman, National Program Leader for Plant Materials, Washington, D.C., gave an update on activities surrounding the national PMP and explained the significance of the new performance index for PMCs, and how it will impact future funding. Participants included plant materials representatives from the NRCS Central Region.



Central Region Plant Materials Tour at Manhattan PMC



L to R: Robert T. Escherman, Joel L. Douglas, Regional Plant Materials Specialist, Fort Worth, Texas, and John M. Englert, Manager, National Plant Materials Center, Beltsville, Maryland.

Program Highlights for 2005

State Plant Materials Long-Range Plans Updated



Oklahoma, Plant Materials Committee

Plant Materials Long-Range Plans (LRPs) for Kansas and Oklahoma have been updated. The Kansas LRP was completed during Fiscal Year (FY) 2005. The Oklahoma LRP is in its final draft and should be completed in the near future. The Nebraska LRP will be reviewed at the Plant Materials Committee Meeting this fall. The individual state LRPs are used to develop the Manhattan PMC LRP.

Siberian Elm Study

Siberian elm, *Ulmus pumila L.* has been used in the Central and Northern Plains states since the early 1900's. Initially, the species showed promise due to its rapid growth rate and drought tolerance. The species begins blooming in early spring and tends to defoliate well into the fall resulting in frequent weather-related tree damage. Despite the faults and relatively short-life span, there are many locations where Siberian elm can be effectively used in windbreaks. The purpose of the study is to select a Siberian elm with improved survival, insect and disease resistance, drought tolerance, and early fall defoliation. Several more years of data will be collected to determine if a selection can be made.



Manhattan, Kansas, Plant Materials Center

Phone: (785) 538-8761

FAX: (785) 539-2034

- Manager: Richard L. Wynia
- Assistant Manager: John M. Row
- Career Intern: R. Alan Shadow
- Biological Science Technician: Don R. Garwood
- Biological Science Technician: Jerry D. Longren
- Office Automation Clerk: Erma J. Leuthold
- Plant Materials Specialist: Mark A. Janzen (Kansas, Nebraska, Oklahoma)

PMP Web site:

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

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."