



2004



Progress Report of Activities

Issued March 2005

Manhattan, Kansas Plant Materials Center

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

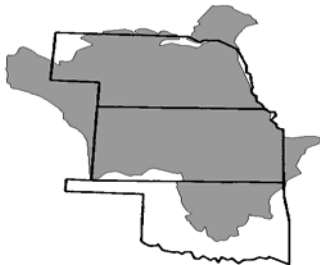
Web site: <http://www.plant-materials.nrcs.usda.gov>



**THE MISSION OF THE PLANT MATERIALS PROGRAM IS:
SEEKING VEGETATIVE SOLUTIONS TO CONSERVATION PROBLEMS**

Who We Are

The Manhattan Plant Materials Center (PMC) is one of 26 Centers nationwide that use 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 is to develop and transfer state-of-the-art plant science technology to meet customer and resource needs. The primary products produced by the program include 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 2004

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 Indian grass
- Aldous little bluestem
- Cimarron little bluestem
- Pronghorn prairie sandreed
- Bend sand lovegrass
- El Reno sideoats grama
- Blackwell switchgrass
- Kanlow switchgrass
- Barton western wheatgrass



Aldous little bluestem

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



Eureka thickspike gayfeather

Economic Impact – Seed and Plant Production – What is it worth?

During 2004, commercial growers produced over 373 tons of seed from plant materials previously provided to them by the PMC. The value of this commercially-produced material totaled more than seven million dollars.



Kaw big bluestem harvest

Woody Plant Materials Evaluation Summary

Since 1992, 41 different species and varieties of native and introduced tree and shrub species have been monitored for establishment, persistence, and growth at the Southwest Research Center at Tribune, Kansas. The purpose of the evaluation is to test a wide range of plant materials for potential use in windbreak/shelterbelt and wildlife plantings in the western area of Kansas, Nebraska, Oklahoma, and eastern Colorado.

Bur oak is one of the more successful species in the woody plantings. It has shown excellent growth and hardiness considering the harsh climate conditions of western Kansas. Continued monitoring of these plantings will continue for several more years.



Bur oak planting, Tribune, Kansas

Saline Site Reclamation

Small areas of pasture and rangeland have been damaged through the spillage of brine water associated with oil drilling activity. Natural saline seeps have also formed in cropland fields due to cropping practices, geology, soils, and drainage configurations. These sites are typically high in salts, low in organic matter, have poor soil structure, and are extremely difficult to re-vegetate without considerable economic input.



Saline site prior to planting

Several saline sites in southern Kansas were seeded in 2003 to a selection of 10 different native and introduced salt-tolerant species. The planting included:

- Alkali sacaton
- Switchgrass
- Tall wheatgrass
- Big sacaton
- Inland saltgrass
- Western wheatgrass
- Russian wildrye
- Alkaligrass
- Blue panicgrass
- Four-Wing saltbush



Saline site planting

Initial evaluations indicate that groundcover (residue) is important in the establishment success of these saline site plantings. Future planting sites will evaluate different types of residue and incorporation techniques along with the salt-tolerant species.

Plant Studies

The PMC is currently evaluating collections of false indigo and buttonbush for use in riparian and streambank protection. These plants also have many other potential benefits such as wildlife enhancement, shrub component in windbreak plantings, and use as an ornamental plant in beautification projects.

Selections from these plantings will be collected and planted to develop a release for future plantings.



False indigo planting at the PMC



Buttonbush planting at the PMC

Medicine Wheel

Patrick Broyles, PMC Soil Conservationist, is continuing to work on the establishment of an Indian medicine wheel at the PMC.



State Conservationists' Advisory Committee Meeting



State conservationist's advisory meeting

Representatives from Kansas, Nebraska, Oklahoma, and Colorado met at the PMC to review the operation of the PMC for 2004. State conservationists are charged with the task of focusing the PMC to accomplish the needs of their states.

Bio-mass Project



PMC staff harvesting switchgrass bio-mass

The PMC is cooperating with the Oklahoma State University Agricultural Experiment Station, Stillwater, Oklahoma, in a switchgrass bio-mass project. This project is looking at several unique lines of switchgrass for bio-mass production which could be ultimately used for fuel production in the future.

Plant Materials Program Web Site:

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

With links to:

PLANTS Database
PLANTS Species Profiles

Information:

Publications
Fact sheets
Plant releases
PMCs



Manhattan Plant Materials Center

Phone: (785) 539-8761

FAX: (785) 539-2034

Manhattan, Kansas, PMC Staff

- Manager: Richard Wynia
- Assistant Manager: John Row
- Biological Science Technician: Don Garwood
- Biological Science Technician: Jerry Longren
- Soil Conservationist: Patrick Broyles
- Office Automation Clerk: Erma Leuthold
- Plant Materials Specialist: Mark Janzen, (Nebraska, Kansas, Oklahoma)

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, 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, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.