



United States Department of Agriculture  
Natural Resources Conservation Service

# Plants for the Heartland

A newsletter in support of the Plant Materials Program for Colorado, Kansas, Nebraska, and Oklahoma

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**MANHATTAN PLANT  
MATERIALS CENTER**  
Manhattan, Kansas



'Sunglow' grayhead prairie coneflower in full flower

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The National Technology Support Center (NTSC) in Fort Worth, Texas, transfers technology through various methods. One method used is to offer technical workshops on specific topics. The Central NTSC has sponsored four such workshops in its service area this spring. These workshops were strategically located to encourage local interaction among participants and hands-on participation in field activities, as well as minimize travel for those attending. The purpose of the workshops is to deliver the latest technology on soil quality, cover crops, cropping system diversity, Integrated Pest Management, and biomass/biofuel production. Local agronomists, soil scientists, and Plant Materials Center (PMC) staff were invited to participate in the workshop. The first workshop was held at the Manhattan PMC and included Kansas and Missouri state office ecological science staff specialists, soil scientists, and area staff from Kansas.

The workshop included topics on soil biology, carbon effect on soil quality, wind erodibility, crop rotation benefits, crop residue, wildlife, cover crops, and nutrient management. Most of the instruction was provided by the NTSC staff members and John Tatarko, Soil Scientist, from USDA Agricultural Research Service (ARS) Wind Erosion Research Unit in Manhattan. The

workshop participants toured the USDA ARS Wind Erosion Research Unit on May 7. The group was also provided a tour of the new Horticulture Student Farm by faculty



Joel Douglas (foreground), Central Regional Plant Materials Specialist, inspects hairy vetch as the group discusses legume cover crops.

advisor Dr. Rhonda Janke. She discussed organic farming and the future of sustainable agriculture in this country.

The workshop also provided the participants with a chance to investigate soil quality parameters using the Soil Quality Test Kit. The kit allowed for measurement of soil respiration, infiltration, electrical conductivity, soil pH, soil nitrate, aggregate stability, and bulk density. The soils at the PMC proved to be fairly neutral with a pH range of 6.5 to 7.0 and have very low soil respiration and organic matter.

Similar workshops were held by NTSC staff in Ames, Iowa; Hickory Corners, Michigan; and Brookings, South Dakota.



Tatarko (L) explains the pin method for determining field roughness to workshop participants.

## Blue Monday



Hail litters the PMC's grounds

Monday, June 2, 2008, began like any other day at the Manhattan PMC. The sky was cloudy, and the weather report held the potential for severe storms in Kansas. Not an unusual forecast for this time of the year on the Great Plains, although severe storms in the morning are not as common as are evening storms. The staff meeting was uneventful. People discussed the weather, but as usual no one is able to do anything about it. Unfortunately, we've become complacent as severe storms tend to pass us by with little damage.

At approximately 10 a.m., CDT, that all changed. A storm cell with unusually large hail swept over the PMC and

several other unlucky businesses and properties. The 3+-inch diameter hail fell for about 15 minutes and destroyed the PMC's main stand-alone greenhouse and the smaller glass greenhouse attached to the seed testing lab. The hail also damaged the roofs of the PMC's metal buildings, knocked out two glass windows in buildings, and made impressions in the shingles on the office roof. Most NRCS employees that drove to the PMC that day had windows and windshields broken and major body damage to their vehicles. Several vehicles were a total loss. Not a good way to start the week. See "After the Storm" on page 4.

## Quality Assurance Review

The Manhattan PMC completed a Quality Assurance Review on April 29-30, 2008. The last review held at Manhattan was in August 1985. Thus, there had been a long gap between inspections here at the PMC. The Review Team consisted of National Plant Materials Program Leader Bob Escherman; Central Regional Plant Materials Specialist Joel Douglas; North Dakota State Conservationist J.R. Flores; Acting Kansas State Conservationist Astor Boozer; and State Resource Conservationist Terry Conway. Mark Janzen, Plant Materials Specialist, Salina, and the PMC staff were all present for the review.

The PMC staff assembled a notebook for the Review Team's use and also provided the team with a tour of the facilities and fields. The notebook provided the reviewers with an administrative overview of the PMC. The tour provided a real look at the operation of the PMC and the problems faced by the PMC staff. The Review Team also requested that they be allowed to visit with some of the PMC's partners. Face-to-face interviews were conducted with Vernon Schaffer, Agronomist, Kansas

State University, and Dr. Larry Hagen, ARS Wind Erosion Research Unit Scientist, both of Manhattan, Kansas. Teleconference meetings were conducted with Dave Stock and Rod Fritz, owner and manager of Stock Seed Farms, Murdock, Nebraska, and Dr. Tim Springer, ARS Scientist, Woodward, Oklahoma. The interviews focused on cooperative projects carried out by the PMC and its partners and the sale and use of foundation seed by commercial vendors. The interviews were positive and provided a different perspective of the PMC and the work that is accomplished.

"The tour provided a real look at the operation of the PMC..."



Review Team inspects container plants in the PMC's greenhouse.

## 2008 Field Planting Effort

Field plantings sponsored by the Manhattan PMC were installed in early May. Planting sites included four in Nebraska: Lincoln, Bloomfield, Chadron, and North Platte and one planting in Tribune, Kansas.

The plantings included two potential PMC releases of blue grama; a northern strain and a southern strain, a strain from the ARS in Lincoln, Nebraska, and two Standards for Comparison were included: the cultivar 'Hachita', a release out of Los Lunas PMC in New Mexico, and Bad River Ecotype, a Selected Class plant material of South Dakota origin released by the Bismarck PMC in North Dakota. Forbs in the planting included both seeded



Biology Class volunteers assist with planting at Southwest High School, Lincoln

and vegetative plantings of New Jersey tea, leadplant, compass plant, and dotted gayfeather that have been selected for advanced testing by the Manhattan PMC.



Rich Wynia, PMC Manager; Jeff Nichols, Resource Conservationist; and Brad Carlson, Twin Platte NRD Range Technician, install planting on a site near North Platte



Janita Kube, landowner; Wynia; and Jane Wilmes, Resource Conservationist, discuss planting at a site near Bloomfield



Bryan Kahl, Resource Conservationist, and son assist with planting at Chadron

Evaluations of these plantings will be completed annually for the next five years, primarily evaluating if the plant is adaptable to the planting sites. We will also be looking at plant vigor and performance as it relates to the Standards for Comparison in each planting.

Additional planting sites in Colorado and Oklahoma are being planned for 2009. If you have interest in hosting a field planting, please contact Mark Janzen, Plant Materials Specialist at 785-823-4595 or email at [mark.janzen@ks.usda.gov](mailto:mark.janzen@ks.usda.gov).



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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).

**SEEKING VEGETATIVE SOLUTIONS TO CONSERVATION PROBLEMS**



## After the Storm



**Lean-to greenhouse destroyed**



**Main greenhouse roof damage close-up**



**3"+ hail**



**Major window damage to vehicles**



**Hole in main greenhouse side wall**



**Greenhouse roof Swiss cheese-like look**



**Broken window to lathhouse**



**Personal vehicles not spared**

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