

Manhattan Plant Materials Center

Manhattan, Kansas



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

Volume 7, No. 4

October 2000

Manhattan PMC Assists Local Elementary School with Natural Area Plantings

The Manhattan Plant Materials Center (PMC) has recently provided assistance to Marlatt Elementary School. The PMC staff was approached by Jayne Sobering, an involved Marlatt parent, about the possibility of providing technical assistance for the school to start a nature area planting near the elementary school. The Center staff helped Sobering locate firms that had commercially available seed sources. The school nature area planners also wanted several large specimen plants that were dug from old nurseries and out of the way places on the Center. These plants were dug late in the fall and immediately planted in the ground at the Marlatt school site. First grade teacher, Kim Liotta, brought her class to the Center for a tour and to plant seeds of several wildflower species. The Center provided the seed and potting media and pots for the planting. The planted pots were placed in the greenhouse, watered, and allowed to grow. The plants spent 8 weeks in the greenhouse until they were large enough to be transplanted to the Marlatt site by the school children. The class ended up with 257 containerized plants to be added to their nature area. The area will be utilized by science classes and other classes interested in native plant study and appreciation for the next several years. The first graders that started the plants should be able to see them grown and change while attending Marlatt school.

Tours! Tours! Tours!

The Plant Center has been busy with technology transfer by providing tours to a number of interested groups.

ISTRO

The International Soil Tillage Research Organization visited the Plant Center on June 28, 2000. The group was touring many locations in the Midwest while

traveling to Fort Worth, Texas to attend their annual meeting. The group had just toured the soil laboratory in Ames, Iowa and made stops in Manhattan at the Wind Erosion Laboratory and Konza Prairie. Conservation Tillage and Soil Quality researchers from Kansas State University spoke to the group. A presentation about the Plant Materials Program was provided, and refreshments were enjoyed by the 36 individuals present.

SDIA

The Kansas Seed Industry Association held its summer 2000 conference in Kansas City, Missouri the first part of August. The final day of the conference (August 3) involved a bus tour with several designated stops. The staff at the Manhattan PMC provided the seed industry representatives with a viewing of the PMC video, a field tour and a walking tour of the center's facilities. The tour was split into field and facilities portions to facilitate transportation during the field portion of the tour. The 40 plus visitors to the Center enjoyed the tour and asked many good questions.

Kiwanis City to Farm

The Kiwanis tour was held August 5th at the Plant Center. The Kiwanis clubs of Manhattan have an annual tour that relates some aspect of agriculture to the club members. The clubs decided to investigate conservation practices and plants addressed by the Plant Materials Program for this year's tour. The club members asked many questions and indicated that they had an interest in the field of conservation biology. The group viewed the Center buildings and then were transported on a wagon for a field tour of the Center. The weather was hot, but everyone held up well and finished the tour.

Prairie Band of Potawatomi Indians

Individuals from the Prairie Band of Potawatomi Indians visited the Manhattan Plant Center on August 29. Bruce Yonke, District Conservationist from Jackson County, set up the tour and

accompanied the group. The group arrived in the morning to visit with Plant Center Staff about plants of interest to the Tribe. The Center Staff then guided the individuals on a tour of the facilities and after lunch provided a field tour.

PMC Highlighted at SW Research Extension-Station

The Plant Materials Program was highlighted during a recent Dryland Ag Day held at the Kansas State University Southwest Research-Extension Station at Tribune, Kansas on August 16, 2000. The Manhattan Plant Materials Center has an excellent partnering relationship with the Research-Extension Station. Currently the Station serves as an off Center evaluation site for a number of woody species and is cooperating with the Plant Materials Center on a Conservation Reserve Program Enhancement study. Over 60 cooperative extension agents, local agricultural producers, and NRCS field office personnel took part in the Ag Day tour. Participating in the Ag Day allowed an opportunity to promote the accomplishments of the Plant Materials Program, highlight current cooperative projects, and emphasize the benefits of partnering to accomplish mutual resource goals.

Carbon Sequestration

The role of the carbon cycle has taken on new meaning or new importance or new significance recently with scientists, scholars, and informed citizens. Suddenly carbon and carbon dioxide are topics of conversation on news programs and around the water cooler. People who never gave carbon a second thought are now discussing global warming and the increase in greenhouse gases (primarily carbon dioxide). Talk of carbon and carbon dioxide (CO₂) has now become fashionable and trendy.

The carbon cycle has been going on for millions of years here on the planet Earth. Long before people had any idea about what carbon was or how it cycled on the planet. To determine what all the hype is about lets take a look at the infinitely old carbon cycle.

Carbon is the main building block of all life on this planet. Carbon and energy flow through all living organisms so everyone is part of the carbon cycle. The fact that we all consume food, excrete waste and respire on a daily basis intimately links all humans in with the carbon cycle.

Since the late 1800's fossil fuel use, forest and prairie land clearing, and expansion of cultivated agriculture has lead to an increase in atmospheric CO₂. This increase in atmospheric CO₂ potentially impacts climatic change.

Agriculture in this country has the potential to partially mitigate the increase of atmospheric CO₂ by sequestering carbon into vegetation and soils. In the 100 plus years Americans have been practicing intensive agriculture cropping systems approximately 50% of the soil organic carbon (organic matter) has been lost from the soil. The good news in that statement is the soil represents a huge sink where carbon can be stored. Carbon sequestration by soils occurs primarily through the plants metabolic process to convert CO₂ into plant tissue through photosynthesis. When the plant dies its tissue is decomposed and the carbon in the tissue is either released back to the atmosphere or some is retained in the soil as organic matter. It is the job of agriculture to try to retain more carbon in the soil as organic matter.

The amount of carbon soils can retain depends on several factors. There are inherent factors such as climate and soil type which can't be changed by man. However, there are management strategies that can be employed to improve soil carbon retention. In recent years the practices of conservation tillage, land enrolled in the Conservation Reserve Program, rotation with winter cover crops, fertilizer management, and summer fallow elimination have all combined to increase soil carbon levels. Additional increases in soil carbon could be achieved by further tillage reductions and better residue management. Proper management of grasslands can also have a positive effect on carbon sequestration. Increases in soil carbon can be achieved by management for higher plant production and annual burning of tall grass prairies.

Economists suggest that soil carbon retention is one of the most beneficial and cost effective options available to reduce greenhouse gases. Increasing soil organic carbon increases crop productivity and enhances soil, water, and air quality. Additionally management practices that increase soil carbon also tend to reduce erosion, improve overall soil quality, and reduce levels of chemical fertilizer and pesticide applications. Sounds like a win-win scenario.

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 the 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.