

MANHATTAN PLANT MATERIALS CENTER
 Manhattan, Kansas



'Sunglow' grayhead prairie coneflower

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Summer Crew Arrives

With the arrival of the summer crew one can usually expect rain. This spring was no exception. Day 1 was very warm and humid, a sneak peek of summer days to come. Day 2 was rainy and cool, an opportunity to get some spring cleaning done at the Manhattan Plant Materials Center (PMC). However, washing windows and mopping floors is not what the crew thought they had signed on to do. They were expecting sunny, breezy days of hoeing-out weeds in the PMC's seed increase fields. Day 3 brought sunshine and a cool breeze, a perfect day for most anything. A long wet spell preceded the crew's arrival preventing the PMC Staff

from getting to the usual weed control that goes on before the crew's arrival. "It looks like we've got our work cut out for us now," commented Jerry Longren, Biological Science Technician. "We normally



Summer crew weeding grayhead prairie coneflower foundation seed increase field

have a round of spraying completed by now." Few realize just how important the summer crew is to the PMC. Rarely does

the crew recognize or appreciate the importance of the role it plays in the PMC's operation. "I tell the crew the very first day during orientation that their job is an important one," says John Row, Plant Materials Center Specialist. "If only they could see the clean seed inspection reports when they come out next winter, they would be able to see an assessment of their work."

The business of producing seed is a team effort. It starts in the early spring when the PMC Staff burns the fields, roto-tills, fertilizes, and sprays for weeds. Through the growing season, the summer crew assists with irrigating the

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'Modoc' Cypress

Field evaluation of 'Modoc' cypress (*Cupressus bakeri*) will continue for several more years. Plantings were established at the PMC and in a study planting in western Kansas in 2006. Initial results this spring show excellent survival at the PMC and good survival in western Kansas. Winter survival is one of the major concerns with 'Modoc' cypress. Some of the losses in western Kansas

were due to rabbit damage over the winter.



Modoc cypress at Manhattan

and farmstead windbreaks that has very little potential

for spreading. 'Modoc' cypress is one potential conifer that might meet this criteria.

If you are aware of a conifer species that has drought tolerance, cold hardiness, and little potential for spreading, contact Mark Janzen, Plant Materials Specialist at 785-823-4595 or e-mail at mark.janzen@ks.usda.gov.

Summer Crew Arrives

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crops, hoeing-out weeds, and rouging-out crop plants that don't belong in a particular field. The weeds keep coming even after the summer crew hangs up its hoes and goes back to school. The PMC Staff continues to fight weeds until harvest. The staff also must clean combines diligently to avoid contamination in the crops that will be harvested. "There are a lot of steps along the way

where contamination can occur," says Row. Not only do the combines need a careful and thorough cleaning, the seed cleaning equipment and work area also need to be squeaky clean. If not, contamination can result. Our customers expect not only quantity but a quality product as well. The summer crew's contribution is in the field. The staff is responsible not only for the field but for all the



Summer crew washing greenhouse walls following rainy spell at the PMC

other steps in the process. Quality truly is "job one."

By John Row, PMC Specialist

Observation Garden in Transition

A new observation garden was put in after the new PMC office and conference room was built in 1992. To get a jump on things, the forbs were moved from the old observation nursery (a rod-row array of plantings under evaluation at the PMC) that was east of the headquarters. This move would bring the plants close to where people would congregate around the office/conference room complex.

Most all of the forb entries were successfully moved. This got things off to a good start. A wide variety of native warm-season grasses were seeded in plots according to plant height. Plots of various cultivars were located in blocks by species. In the initial years, one could compare cultivars of a species situated side-by-side.

Today, it is a bit more difficult. The Indian grasses have held up well while mixing has occurred among the species in other blocks. The interesting area to watch has been the forbs. Some have run their course only to pop up in a new location in the garden. We no longer have nice neat blocks of individual species. Rather, a mixture of things as one might find in a prairie setting. Grasses have also moved in with the forbs, and there is some mixing of forbs with the grasses. While purpletop (*Tridens flavus*) was not planted in the garden, it made an appearance one summer and has increased its hold on the forbs. The purple top was on this site prior to its transformation into an observation nursery. Being low maintenance, a few weedy species can be found among the more desirable plant species. One can find a mare's tail

(*Conyza canadensis*) or two. This isn't all bad. It is an opportunity for those individuals unfamiliar with some of these plants to get acquainted. We had one visitor's comment for example, "so this is mare's tail? I have heard of it, but I didn't know what people were talking about." Perhaps the greatest thing has been to watch how plants colonize new areas. Opportunities open up as plants die out and gophers push up mounds of soil.

By John Row, PMC Specialist



Lespedeza seedlings appear in disturbed area

"Perhaps the greatest thing has been to watch how plants colonize new areas."



Plants mix it up in forb area

Emerald Ash Borer Update

Back in April 2003, the “Manhattan Plant Materials Center” newsletter (Volume 10, No. 2) reported on the 2002 outbreak of emerald ash borer in six Michigan counties. Since that time, the Rose Lake Michigan PMC has begun a project to gather and preserve ash tree seed. Rose Lake has initiated the National Ash Tree Seed Collection Initiative. An agreement has been established to store the ash tree seed at the National Center for Genetic Resources Preservation in Fort Collins, Colorado. The U.S. Forest Service has agreed to x-ray the seed to determine sound seed for storage. If ash tree populations are decimated by the ash borer, then the stored seed can be used as the genetic base for work to re-establish ash trees for future generations. The information on collection and processing of the ash seed can be found on the Plant Materials Web site under the Michigan PMC site (<http://www.mi.nrcs.usda.gov/programs/pmc.html>).

Since the initial report, the Michigan Department of Agriculture instituted a quarantine of all ash trees and ash wood products in the affected counties to reduce the spread of the insect to other areas. Jumping ahead in time some five years, the quarantines’ effectiveness has been minimal. The emerald ash borer has been confirmed in Adams, Huntington, LaGrange, Lake, Porter, St. Joseph, and Steuben counties of northern Indiana; along with Hamilton and Marion counties in central Indiana, White County near Lafayette, and Randolph County near Muncie.

“As you drive the roadways in southeastern Michigan, you will see very few live ash trees any more,” said Ken Rauscher, director of the

division of pesticide and plant pest management for the Michigan Department of Agriculture. “Most of our ash trees are dead!” exclaimed Rauscher.

The emerald ash borer has no natural enemies in North America. The creamy white larvae kill ash trees by boring into the trunks and destroying water and nutrient conducting tissue under bark. “Naturally, the ash borer can travel about a half-mile each year, so people moving fire wood and trees have aided its spread from Michigan to Ohio,

Indiana, Illinois, Maryland, and now Pennsylvania,” said Melissa Brewer, spokeswoman for the Ohio Department of Agriculture’s Emerald Ash Borer Program. Last week, Ohio officials found emerald ash borers near Youngstown, three miles from the Pennsylvania border. Brewer said the beetle is spreading along the turnpike. Quarantines prohibiting transportation of ash trees and firewood are in place in 29 Ohio counties, and people caught moving ash trees or wood face a \$4,000 fine.

Because they tolerate road salt, ash trees are popular choices to plant along urban and suburban streets in western Pennsylvania. The native white ash is common in Pennsylvania’s State Forests. The ash hardwood makes good baseball bats, and the Louisville Slugger, the official bat supplier of Major League Baseball, makes 80 percent of its 1.6 million bats each year from ash. It gets the

wood for making the bats from forests along the Pennsylvania-New York border.

U.S. Senator Dick Durbin (D-IL), introduced legislation, Emerald Ash Borer Municipality Assistance Act of 2007, to help municipalities defray the costs of performing emerald ash borer management activities which include surveying trees for borers, removing infested trees, and replacing removed trees. “It has been just over a year since the first Illinois case of emerald ash borer was found in Kane County. “Since then, the infestation has worsened,” said Durbin.



Larva boring into tree trunk. Pennsylvania DCNR at www.forestryimages.org

Nebraska Forest Service (NFS) Position on Ash Species and The Emerald Ash Borer — Considering both the apparent inevitability that the emerald ash borer will reach Nebraska and that the current ash component in many communities and rural areas of Nebraska is already well above recommended levels (maximum of 10% of any one group of closely related species), the NFS will no longer recommend ash for planting in the state, and ash will be removed from the lists of acceptable tree species in tree-planting grant programs they administer.



D. Cappaert, MSU, at www.forestryimages.org

Adult beetles are bright metallic green in color. Adults are one-third inch long and one-sixteenth inch wide. They have rounded abdomens and flat backs and are present from mid-May through late July.

By Richard Wynia, PMC Manager



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**SEEKING VEGETATIVE SOLUTIONS
 TO CONSERVATION PROBLEMS**

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).



Hold That Seed!

Time passes quickly from one season to another and with that passage of time a window of opportunity passes for planting certain native grasses and forbs. The NRCS has for years established certain optimal periods of time as the best time to plant with the best possibility of getting native stands established. Thus, after those dates have passed, producers need to protect and store any carry-over seed for later planting. Proper seed storage is very important to maintain seed integrity and viability until the next seeding opportunity. There are some guidelines that can be followed to maintain seed quality. Optimal storage conditions for

most grasses and forbs involve the combination of temperature and humidity. A general rule of thumb is that the sum of the storage temperature in degrees Fahrenheit plus the humidity percentage should be less than 100. Thus, if the storage area has a 60 degree temperature and 30 percent humidity, the sum of those two figures would equal 90. This example would meet the recommended storage conditions. However, the smaller the sum the better it is for the stored seed. Additional things to keep in mind are:
 1) make sure the storage area remains dry; 2) try to maintain fairly constant temperature and

humidity, if possible; and 3) seed should be protected from rodents and other seed eating pests.

If seed is retained until the spring of 2008, it will need to be retested for germination. The new germination test will be used to determine if existing seed quantities are still sufficient to do the planned planting area or if more seed will need to be purchased to complete the



Carry-over native grass seed

seeding as originally intended.

By Janzen and Wynia

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