

## Plant Materials Notable Achievement

Jerry D. Longren, Biological Science Technician (BST), received the National Plant Materials Notable Achievement Award presented by Eric B. Banks, Natural Resources Conservation Service (NRCS), State Conservationist, Salina, Kansas. Jerry developed and fabricated a new system for handling foundation seed from the point of harvesting through all the intermediate steps to the final cleaning of the seed. These key changes required a concerted effort over multiple years beginning in September 2008. Jerry relocated two major pieces of cleaning equipment (the hammermill and debearder) and built a superstructure around them to handle 5- and 10-bushel metal bins.



**Eric B. Banks, State Conservationist, presents the Notable Achievement Award to Jerry Longren, BST.**

The Manhattan Plant Materials Center (PMC) combines have also been modified to accept the bins and to deposit the harvested seed into the metal bins. Kansas State University (KSU) North Farm Agronomy Staff built the bins to specifications developed cooperatively by the PMC and agronomy staff members. The system was initially put into operation in the fall of 2010 and has been working as expected. Donald R. Garwood, BST (Plants), indicated that the new system is about 50 percent quicker than the former cleaning system which often involved two people in the harvesting process: a combine operator and a seed-sack handler. The after-harvest process also involved manually carrying seed sacks to the dryer and ultimately to the seed cleaner. With the new seed-handling system at the PMC, the Kansas NRCS envisions a substantial savings in time and manual labor in addition to a cleaner end product.

## Mead's Milkweed

Dr. Samuel Barnum Mead first collected Mead's milkweed (*Asclepias meadii* Torrey). He was a physician-botanist in western Illinois in 1843. A specimen of the plant was sent to John Torrey, and he recognized it as a new species and named it *Asclepias meadii* possibly as early as 1846 or 1848. In pre-settlement times, Mead's milkweed appears to have had a wide distribution through the Tallgrass Prairie Region from Indiana to northeastern Kansas and south into Missouri and Illinois. With the advent of the moldboard plow and the transformation of the prairie to cultivated crops, the plant quickly disappeared from the landscape. Dr. Mead even recognized the disappearance of the plant in the 1800's and urged that it be protected for future generations. Finally, in September 1988, the U.S. Fish and Wildlife Service (USFWS) declared Mead's milkweed a federally threatened species. Today, Mead's milkweed exists in small, scattered populations in the states of Illinois, Iowa, Kansas, Missouri, and Wisconsin. Nearly 91 percent of these extant populations are in 24 counties in eastern Kansas and westcentral Missouri.

In 1996, the Kansas Biological Survey, USFWS, and the U.S. Department of Agriculture's (USDA) NRCS began a cooperative effort to develop strategies for restoration of Mead's milkweed. The PMC began working on the germination protocol for Mead's milkweed. Seed from the Kansas Ecological Reserve—Rockefeller Trust Site in Jefferson County, Kansas, was experimented with by the PMC Staff. Studies conducted at the PMC determined that the best germination occurred after six weeks of cold-moist stratification at temperatures of 20/24°C (68/75.2°F) (16 hours/8 hours) dark/light protocol. No significant differences in germination were detected for cold/moist stratifications periods lasting six to ten weeks.

In April 1998, seedlings at the four-to-eight leaf stages were transplanted into two different field settings on the PMC to develop establishment methods. One setting simulated a tallgrass prairie, and the other, a monoculture of only Mead's milkweed in a tilled and cultivated situation. Milkweed seedlings responded differently in the two settings. After three years in the tallgrass setting, the milkweed seedlings were still essentially juvenile plants with narrow leaves and spindly stems. In the monoculture setting, the plants had differentiated into what could be considered a mature plant with larger leaves, stouter stems, and the occasional reproductive pod. In fact, from 2001 to 2003, the PMC Staff harvested pods and viable seeds from the monoculture planting. Establishment of the milkweed is not without its difficulties. With drought being a factor early on, after watering the seedlings, rodents were attracted and dug up the seedlings and consumed

them in their search for moisture. Rabbit herbivory was also a problem with establishment. No animal destruction of plants was noted in the monoculture setting, and overall, the best seedling survival was experienced in the cultivated situation.



**Nine-year old Mead's milkweed plant in bloom at the Buffalo Grass-Tallgrass Prairie site, PMC**

Eighty-six plants grown in forestry peat pellets for a year were transplanted on the Marais des Cygnes National Wildlife Refuge in Linn County, Kansas, in the spring of 2009. An estimated 80 percent survival rate was determined in August of that year as the plants began to senesce. In the spring of 2011, a total survival of 72 percent was reported by refuge personnel.

### Flagpole

In August 2010, the large ponderosa pine that stood outside the PMC's office was blown down in a windstorm. Leaving the question--what to do with this void in the landscape, plant another tree? How about a new flagpole? In 1968, the current flagpole to fly the U.S. flag was placed outside the PMC's Seed Cleaning/Office Building. The pole was constructed of sections of galvanized pipe bolted together with sleeves at each section. When lowering the flag, it would sometimes snag on a bolt on the way down. With the Kansas wind, the flag often wrapped around the pole making it difficult to take down and sometimes had to be left up overnight. In recent years, a nearby oak tree's branches would catch the flag. All these situations were detrimental to the flag causing rips and tears resulting in frequent replacement. A new flagpole was long overdue, and the loss of the pine offered an opportunity to erect a new flagpole near the PMC's current office location. So last fall, a new, 30-foot, double section, polished aluminum pole was purchased. This spring, staff made preparations



**(L-R) Ted Furtak, BST, Edie Hadle, Clerk Typist, and Warren Longren, BST; raise the flag on a new pole on November 19, 1968**

for installing the new flagpole by digging a large hole and fashioning the top of the pole's base in the shape of a raindrop. On the USDA's 150th Anniversary, May 15th, the U.S. flag was raised on the new PMC flagpole. The PMC staff received numerous comments on the attractiveness of the new pole.



**(L-R) Paul Gleue, Biological Science Aid, Don Garwood, BST, and Jerry Longren, BST, raise the flag on the PMC's latest flagpole, May 15, 2012**

### Coming Events

Third Annual Manhattan Butterfly Count, July 12, 2012, 9 a.m., meet at the PMC for count circle maps and count instructions. Contact John Row, [john.row@ks.usda.gov](mailto:john.row@ks.usda.gov), 785-539-8761, for more information.

Fall Field Day, Manhattan PMC, September 12, 2012, 9 a.m. to 12 p.m. Tours, Brown Bag Lunch, 1 to 3 p.m. Breakout Sessions, Contact Mark Janzen, [mark.janzen@ks.usda.gov](mailto:mark.janzen@ks.usda.gov), 785-823-4595, for more information.