
# 2006 Progress Report of Activities

## Rose Lake

## Plant Materials Program

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**Who We Are:**
The mission of the NRCS Plant Materials Program is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. The Rose Lake Plant Materials Center (PMC) was established in 1958 to develop plant materials and plant technology for use in natural resource conservation activities.
There are 27 Plant Materials Centers nationwide, each serving a particular geographic area. The Rose Lake Program serves Indiana, Michigan, Ohio, and Wisconsin. It also serves portions of Illinois, Minnesota, New York, and Pennsylvania.

**Program Emphasis:**
The activities of the Rose Lake PMC are guided by a long-range plan. Priority work areas include

- Plant releases, seed and plant production
- Plant technology development
- Grazing lands enhancement
- Assistance to under-represented groups

This document highlights some of the major activities of the Rose Lake Plant Materials Program during 2006. For detailed information, contact the Rose Lake PMC or the Michigan NRCS Plant Materials Specialist.

## New Plant Releases From The PMC

The Rose Lake Plant Materials Center released two new Tick-Trefoil species in 2006. Alcona germplasm Dillenius' tick-trefoil (*Desmodium glabellum*) and Grant germplasm panicledleaf tick-trefoil (*Desmodium paniculatum*) were made available to commercial seed growers as tested class releases through the Plant Materials Program. The two tick-trefoil species are native perennial legumes that serve as a food source to several upland game birds and songbirds, as well as excellent deer browse.

Alcona germplasm and Grant germplasm tick-trefoil were selected from a collection of 49 accessions assembled by the Plant Materials Program in 1989. Of those 49 accessions, five, including Alcona and Grant, were selected for advanced evaluation. Alcona germplasm and Grant germplasm were selected from those advanced evaluation trials for increase and release because of their superior survival, emergence, vigor, and foliage abundance.

Generation 1 (G1) seed is maintained by the Rose Lake PMC. Seed is available to commercial growers for establishing production areas. Contact Dave Burgdorf, Plant Materials Specialist at 517-641-7831 or **(dave.burgdorf@mi.usda.gov)** for more information.

# Native Plant Testing

The Rose Lake PMC has been evaluating Virginia wildrye, riverbank wildrye, and bottlebrush grass accessions for selection and potential release. Initial evaluation trials of Virginia wildrye and bottlebrush grass identified five accessions of each species that were placed in advanced evaluation trials at the PMC. Data collection will continue through 2007.

Initial evaluation plots of poverty oats and Canada bluejoint grasses were established in 2006 at the PMC and at a cooperator field location in LaPorte County, Indiana. Theresa Wojkovich, District Conservationist in the LaPorte, IN Field Office, made arrangements with a landowner to establish the plots on his farm. Members of the Indiana Plant Materials Committee installed the plantings and are collecting the requested plot data.

## *Cool Season Grass Evaluation Trials In LaPorte County, Indiana*

## *Advanced Cool Season Grass Evaluation At The Rose Lake PMC*

# Ammunition Bunker Re-vegetation

The Rose Lake PMC, working in cooperation with the Fort Custer Military Training Center (MTC) near Augusta, MI, established an off center study to evaluate several plant species and establishment techniques for re-vegetating steep sloped ammunition bunkers. The MTC requested plant species that would provide good vegetative cover and stabilization of the sandy, drought prone soils on the bunkers, as well as require minimal maintenance on the steep slopes and the bunkers. Creeping red fescue showed quick establishment on direct seeding and in the vegetated mat technique. Cold tolerant Bermuda grass also demonstrated good establishment. Several *Sedum* species were also planted on the bunker. Most accessions established well but have not spread to provide adequate ground cover after one year. Additional plantings of species mixes are planned for 2007.

# Windbreaks for Muck Soils

The Rose Lake PMC and Michigan State University (MSU) Muck Soils Research Farm in Laingsburg, Michigan are evaluating several tree and shrub species as windbreak materials. Most of the plant materials used for this project are NRCS releases from the Rose Lake PMC. The Big Flats, NY PMC provided 'Ruby' red-osier dogwood for the project. The plantings were established in the spring of 2006 using weed barrier fabric and drip irrigation to facilitate plant establishment.

A similar project has been on-going with the Ohio Agricultural Research and Development Center (OARDC) Muck Soils Research Center near Celeryville, OH. Early indications are that willow species establish well in the muck soils, providing effective windbreaks.

# National Ash Seed Collection Initiative

An introduced insect pest (Emerald Ash Borer) has destroyed thousands of Ash (*Fraxinus* spp.) trees across the Great Lakes Region. In response to the devastation, a non-funded Cooperative Agreement between the USDA Agricultural Research Service and the USDA Natural Resources Conservation Service Rose Lake Plant Materials Center has been established. Through this agreement, Ash seed collected from across the nation will be stored at the National Genetic Resource Preservation Center (NGRPC) in Ft. Collins, CO. Seed stored at the NGRPC will remain viable for up to 50 years and will be made available to scientists interested in using the genetic material.

In 2005, Rose Lake Plant Materials Center received 20 Ash seed samples from seed collectors. The PMC staff sorted seed samples for maturity and visual defects. Of the 20 samples 8 were forwarded to the US Forest Service Laboratory in Macon, GA for X-Ray analysis. The X-Ray analysis identified immature seeds and seeds that had insect damage or other physical defects that were not observed in the initial processing. Six samples determined to have 50% or higher sound seed were sent to the NGRPC for long term storage. In 2006, 119 samples from six States were received at the Rose Lake PMC. Of those 119 samples, 58 were sent to the US Forest Service Laboratory for X-Ray. Results of the X-Ray analysis are pending.

X-Ray Slides of damaged seed

X-Ray Slide of good seed

Weevil hole in seed

Ash seed weevil larvae

# National Park Service

The Rose Lake Plant Materials Center has partnered with the National Park Service since the mid-1990's. In 2006 the PMC provided over 5300 plants for a restoration project on the Apostle Islands National Lakeshore in Wisconsin. In addition to plant production, the Michigan NRCS Plant Materials Specialist provided technical assistance for slope stabilization on Outer and Raspberry islands involving several soil bioengineering techniques.

Outer Island Lighthouse

Eroding slope in front of Lighthouse

Plug planting with native plants

Planted and mulched slope

Newly seeded and mulched slope

Establishing slope grid and vegetative cribwalls

Sergio Perez with Hispanic Farmers

# Outreach Assistance

Sergio Perez, Biological Science Technician at the PMC, participated in several events providing assistance to Spanish speaking customers.

In addition to live translation, Sergio has worked with Michigan State University professor Dr. John Biernbaum to translate training materials on hoop house vegetable production into Spanish and conduct training events for Michigan Hispanic farmers.

Hoop House and Hoop House Construction

# Assistance to Native American Tribes

## *Little River Band of Ottawa Indians Receives 150 Year Old Tobacco Seed*

In the spring of 2006 , the Little River Band of Ottawa Indians Natural Resource Department staff set out to see if they could make a miracle happen; their mission was to attempt to plant Sema (Tobacco) from seeds that had been stored at the Smithsonian for over 150 years.
Several years back, Jimmie Mitchell was given the guardianship of these ancient seeds by his Uncle who had obtained them through contacts at the Smithsonian Institute. As explained to Jimmie, when the European people first arrived on our lands, seeds from the local plants had been collected by their botanists, who cataloged and stored them away. In the case of the Sema, it wasn't even known if the tiny ancient seeds would germinate since they were so old. This project has proven to be successful and many new tobacco plants are now growing.

The Rose Lake Plant Materials Center is assisting the Little River Band of Ottawa Indians by providing a greenhouse environment to grow these plants and obtain new seed.



## *Technical Assistance with Sweetgrass Propagation*

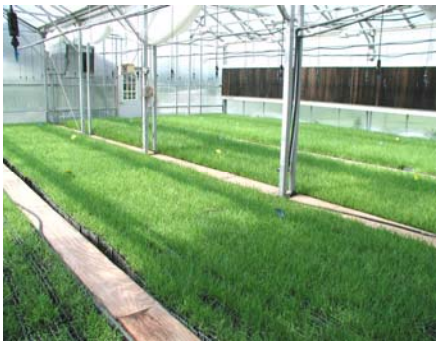
Through a Memorandum of Agreement with the Gun Lake Tribe of Potawatomi Indians, the tribe requested the Rose Lake Plant Materials Program's assistance in training their members on sweetgrass propagation. In August, a task agreement was developed and the tribe collected sweetgrass from their tribal property and brought it to the Rose Lake PMC. The PMC staff provided tribal members training on separation and vegetative propagation. The PMC staff has managed the plantings in the greenhouse and will return them to the tribe in the spring of 2007.


# Cooperative Project with U.S. Army Corps of Engineers

The NRCS Plant Materials Center in Cape May, NJ developed an agreement with the U.S. Army Corps of Engineers to propagate salt marsh cord grass for use in a restoration project on Jamaica Bay, NY. The Rose Lake PMC was asked to propagate 120,000 plants for this effort. In May of 2006 the PMC staff, with assistance from Michigan Field Offices and State Office staff, transformed the greenhouse into an aquatic plant production facility. Specialized "book planters" were filled with a soil-sand mix and planted with salt marsh cord grass seeds. In mid-July another group of Field Office, Conservation District, and State Office staff helped load 120,000 plants into a semi-truck for delivery to the restoration project in Jamaica Bay.

Planter Box Assembly by NRCS Staff

Newly Seeded Trays in Greenhouse



Salt Grass Marsh

Root Systems Developing

Volunteers moving grasses out of greenhouse

Grasses moving on conveyor belt out of the greenhouse to shipping racks


Loading grasses onto the semi truck that will take them to Jamaica Bay.

Hardworking NRCS Volunteers—Thank You

# Conferences and Symposia

The NRCS Plant Materials Specialist and PMC staff represented NRCS at the following conferences and symposia:

- State Conservationists Advisory Committee Meeting, East Lansing, MI
- Michigan Grazing Lands Conservation Initiative and Michigan Hay & Grazing Council Meeting, East Lansing, MI
- MACD/SWCS Meeting, Big Rapids, MI
- Pokagon Band of Huron Potawatomi Indians and Michigan State University meeting, East Lansing, MI
- Michigan Forage Council Annual Meeting, St. Johns, MI
- Indiana SWCD Meeting, Indianapolis, IN
- Soil & Water Conservation Society Meeting, East Lansing, MI
- Michigan Family Farm Conference, Battle Creek, MI
- Emerald Ash Borer Tribal Symposium, Plainwell, MI
- State Conservationist Plant Materials Advisory Committee Meeting, East Lansing, MI
- Plant Materials Training for Conservation Boot Camp, Madison, WI
- Michigan State University Ag Expo, East Lansing, MI
- NRCS Statewide Employees Picnic and Field Day, East Lansing, MI
- Michigan State University Native Plants to Enhance Beneficial Insects Field Day, East Lansing, MI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NRCS Natural Resources Conservation Service