

United States Department of Agriculture



**NRCS** Natural Resources  
Conservation Service



## **ROSE LAKE PLANT MATERIALS CENTER**

**EAST LANSING, MICHIGAN**

**2004**

### **PROGRESS REPORT OF ACTIVITIES**



## 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 was established in 1958 to develop plant materials and techniques for use in natural resource conservation activities.

There are 26 Plant Materials Centers nationwide, each serving a particular geographic area. The Rose Lake PMC 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 at the Rose Lake PMC during 2004.

## Native Plant Testing

The Rose Lake PMC has been evaluating Virginia wildrye, riverbank wildrye, and bottlebrush grass accessions for selection and potential release. Virginia wildrye and bottlebrush accessions were evaluated in accession comparison trials both at the PMC and in research trials in Indiana, Ohio, and Wisconsin. Plants were evaluated for vigor, lodging, susceptibility to insects and disease, and for seed production. Riverbank wildrye was evaluated in field plantings in Michigan and Wisconsin. Releases from those trials would be used as components of conservation plantings, wildlife habitat enhancement plantings, and critical area treatments.

## New Plant Release

Through cooperation with the Indiana Association of Soil and Water Conservation Districts and Indiana Department of Natural Resources, the Rose Lake PMC released Icy Blue germplasm Canada wildrye. This is a tested class release that was originally collected in La Porte County, IN and was evaluated in research trials at the Rose Lake PMC. Icy Blue germplasm Canada wildrye is distinct from other accessions in the trials in that the leaves and stem have a whitish, waxy bloom, giving it a distinctive “icy blue” color. The Rose Lake PMC has established a seed production field and seed should be available to commercial growers in 2005.



Icy Blue germplasm Canada wildrye

## Plant Technology Development

The Rose Lake PMC has been working with the Michigan NRCS State Forester, several NRCS field offices, and private forest-land owners to evaluate the effectiveness of direct tree and shrub seeding as an alternative to transplanting bare-root or containerized plant materials. Trials established at the PMC in 2003 evaluated 14 plant species in two tillage schemes and two planting times. An additional seven species were added in 2004 trials at the PMC. Four off-Center trials were established by NRCS field office staff and private cooperators to compare direct seeding of northern red oak acorns to planting bare-root plant materials. The data demonstrates that heavy masted species, such as walnut, oak, hickories, and black cherry establish well when seeded in the fall. Light masted species such as ash, maples, and birch did not establish well with direct seeding in those experiments.

### *Plant Technology Development (Continued)*

Eastern gamagrass was evaluated for forage production and quality. Experiments at the Rose Lake PMC were conducted to determine the effects of row spacing and harvest height on forage production and quality. Forage quality analysis tests were sponsored by the Michigan Grazing Lands Conservation Initiative. Those trials will continue in 2005 and 2006.

A chemical seed coating used to prevent germinating grass plants from preemergence herbicide injury was evaluated on warm season grasses. Several preemergence herbicides are available to control annual grass and some broadleaf weeds. However, most of those herbicides cause severe injury to warm season grasses during the seeding year. Rose Lake PMC entered into a testing agreement with Syngenta Crop Protection Chemicals to evaluate the effectiveness of Concep® III seed protectant to prevent acetanilide herbicide injury to switchgrass and big bluestem. Syngenta applied the protectant to the grass seed and the PMC conducted greenhouse and field evaluations during 2004. The initial data indicates that Concep® III does protect both switchgrass and big bluestem against injury from Dual II® herbicide. Additional field trials are scheduled for 2005.

A cooperative project with Ohio Agricultural Research and Development Center (OARDC) and the Ohio Department of Natural Resources was established to evaluate tree and shrub species for windbreaks in muck soils. The Rose Lake PMC provided several species to this project as well as technical guidance in establishing the trial. Plants were transplanted into windbreak plots in the spring in 2004. The plots will be monitored for survival, growth, spread, and effectiveness as windbreak material over the next five years.

### **Partnerships**

The Center entered into a partnership agreement with Fort Custer Military Training Center in Augusta, MI to provide technical assistance and plant propagation assistance for a prairie restoration project. The PMC collected and processed seed or vegetative material for five grass species and one forb species. That material will be used to start new seed production fields and begin restoration of a prairie area on the Training Center. In addition to the prairie restoration project, the PMC will be working with the Training Center to re-vegetate several ammunition bunkers with low-growing, low maintenance vegetation.

The Rose Lake Plant Materials Center has partnered with the National Parks Service since the mid-1990's. In 2004, the PMC provided over 5000 plants for restoration projects on the Apostle Islands National Lakeshore in Wisconsin. In addition to plant production, the Plant Materials Specialist provided technical assistance on a slope stabilization project that will use several soil bioengineering techniques.



**Plant propagation for Apostle Islands  
National Lakeshore**

Rose Lake PMC has entered into a new partnership agreement with the Indiana Department of Natural Resources Fish and Wildlife Division to release three Indiana genotype native warm season grasses. In 1993 the INDNR Fish and Wildlife Division, and its partners, collected seed from native stands of big bluestem, little bluestem, and indiangrass. Those seed production fields were established at the Jasper Pulaski Fish & Wildlife area in Medaryville, IN. The Rose Lake PMC was able to provide seed harvesting, drying, and cleaning equipment to expedite harvest and processing of that seed. The PMC anticipates releasing those species as selected class germplasm releases in 2005.



**Indiangrass production field at Indiana DNR  
Jasper Pulaski Fish and Wildlife Area**

## Assistance to Under-represented Customers

The Rose Lake Plant Materials Center has provided assistance to the Native American Tribes in the four State service area for over 10 years. In 2004, the PMC entered into an agreement with the Nottawaseppi Huron Band of Potawatomi Indians to provide propagation of sweet grass and sacred tobacco. In addition to propagation assistance, the PMC provided technical training to 12 tribal members on separation and re-potting of sweet grass, and provided general information on greenhouse design and operation considerations.



Members of the Nottawaseppi Huron Band of Potawatomi Indians receive training in propagating sweet grass



## Conferences and Symposiums

The Michigan NRCS Plant Materials Specialist and PMC staff represented NRCS or presented technical information at the following conferences and symposiums:

- National Plant Materials/GLCI meeting, St. Louis, MO.
- National NRCS Agronomy meeting, Nebraska City, NE
- Indigenous Farmers Conference, Mount Pleasant, MI
- Great Lakes Fruit and Vegetable Conference, Grand Rapids, MI
- Michigan Association of Conservation Districts., Lansing, MI
- Michigan Wildflower Conference, East Lansing, MI
- National State Plant Materials Advisory Committee Meeting, East Lansing, MI
- Eastern Native Grass Symposium, Lexington, KY

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**For information specifically about the Rose Lake Plant Materials Center go to**

<http://www.plant-materials.nrcs.usda.gov/mipmc/>

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