Rose Lake Plant Materials Center

Summer 2011 Newsletter

Rose Lake PMC Partners with Michigan State University For new Plant Release

Dr. Richard Leep, Michigan State University forage specialist, approached NRCS in 2009 to produce seed and co-release an improved variety of yellow-flowered alfalfa (*Medicago sativa* spp. *falcata*). Yellow alfalfa is a perennial legume growing up to 30 inches high with multiple erect stems. It has alternate sets of three oval-shaped, hairy leaflets with yellow flowers. Yellow alfalfa has growth requirements (pH, nutrients and moisture) similar to purple flowered alfalfa. It blooms for a longer duration in the growing season than does purple flowered alfalfa and has been shown in Michigan to produce as much forage in a two cut system as purple flowered alfalfa produces in a three cut system.

Researchers at South Dakota State University (SDSU) evaluated several populations of yellow alfalfa for forage production, resistance to potato leaf hopper damage, resistance to alfalfa weevil damage and resistance to phytophthora root rot. From those trials a population was selected for further evaluation as a forage crop. Research at SDSU and Michigan State University demonstrated that this selection of yellow alfalfa produces as well as, or better than purple flowered alfalfa or birdsfoot trefoil. Yellow alfalfa is a perennial legume that fixes atmospheric nitrogen.

In addition to livestock forage yellow alfalfa is consumed by game animals and birds. Small mammals also graze on alfalfa. Yellow alfalfa can be a source of nectar and pollen for insects and is particularly attractive to solitary bees such as leaf cutter bees. The Rose Lake PMC received seed from the yellow alfalfa selection and propagated seedlings in the greenhouse during April, 2010. Those seedlings were transplanted into a seed production field in June, 2010.

Seed production is under way in 2011. Flowering was extensive across the production block and weather has been favorable for seed production. Dr. Tim Dietz, Michigan State University forage researcher, secured a gallon of leaf cutter bee larvae and incubated them until they hatched. The bees were brought to the PMC and placed in a habitat next to the alfalfa field where they have been foraging since mid-June. Leaf cutter bees are known to forage alfalfa flowers and enhance pollination. Seed harvest took place in early August.

The Rose Lake Plant Materials Center, in cooperation with Michigan State University and South Dakota State University, plan to release this plant through the Plant Materials Program in 2012.



Yellow Alfalfa is in full bloom, the bees and bee hive were provided by Michigan State University for pollinating the yellow alfalfa.

Rose Lake PMC Hosts Plant Materials Program Implementation Training

The Rose Lake Plant Materials Center hosted a two day training class on the NRCS Plant Materials Program. The students included NRCS District Conservationists, soil conservationists, natural resources specialists, and program specialists. The focus of the training was to provide an overview of the Plant Materials Program and specific ways in which the students could use the Program in their roles within NRCS.

Dave Burgdorf, NRCS-MI Plant Materials Specialist, led the discussion on the role of the Plant Materials Committee, emphasizing the need for NRCS field staff to work with the committee to conduct Plant Materials projects. Using the Committee to coordinate Plant Materials projects will not only benefit the local Field Offices, but make the information gathered from those projects available to other Offices in the State or PMC service area.

The students toured the herbarium at Michigan State University. They also participated in a tour of the Plant Materials Center and had discussions about plant materials research.

The second day of the training included a field trip to a streambank stabilization project that NRCS provided training and technical assistance to in Dearborn, MI. Various soil bioengineering techniques were discussed as was the process for working with other government agencies on natural resource concerns.

Ford Field, Streambank Stabilization Project in Dearborn, MI



The group visited a much healthier and useable park after the streambank stabilization project was completed in Dearborn,


The eroding shoreline prior to the streambank stabilization project

Shiawassee Conservation District and Partners Learn Soil Bioengineering Techniques from the City of Dearborn and the Plant Materials Specialist

Dave Burgdorf, the Plant Materials Specialist, took a group from the Shiawassee Conservation District in Owosso, the maintenance staff from Baker College and the City of Owosso to Ford Field in Dearborn, to see a streambank stabilization project, designed and installed to save the river bank from eroding away. The group had interactive training and an on-site tour of Ford Field to better help them learn about bioengineering techniques that could be used in their Shiawassee River Sediment Reduction Project. The project helped the maintenance staff from Baker College and the City of Owosso learn about soft engineering principles, soil bioengineering techniques and observe soil bioengineering techniques that have proven successful at Ford Field. In the Shiawassee River Sediment Reduction Project, Baker College will restore a storm water detention pond located on the main Owosso campus. The City of Owosso will employ these techniques in a city drain stabilization project. The projects are part of the Shiawassee River Sediment Reduction Project funded by a grant awarded to the Conservation District by the Great Lakes Commission.

Training Provided on Evaluating Plant Materials Program Field Plantings

Dave Burgdorf, Plant Materials Specialist, explains the soil bioengineering project to the group

A plaque recognizing the cooperative effort with NRCS on the Ford Field restoration project

Training on evaluating Plant Materials Program field plantings was provided to the Michigan Plant Materials Committee and District Conservationists. The training was conducted near Bellaire, MI, where several field plantings were visited. Plant Materials Specialist Dave Burgdorf and Center Manager John Leif facilitated the training.

The first day of the training focused on the purposes of field plantings and how those plantings are related to Conservation Practice Standards. Types of data to be taken, based on the intended conservation purpose were also discussed. An example of photographic documentation of a field planting used by the Wisconsin Plant Materials Committee was presented. NRCS State Forester Andy Hendriksen provided some follow-up information on how to use digital photographs to measure porosity in vegetative windbreaks.

Several field plantings in the Bellaire area were evaluated on the second day. Two plantings were demonstration plantings of released plant materials, and two plantings were conservation field trials evaluating plants nearing release and plant technology for protection from wind and snow. Special thanks to District Conservationist Pepper Bromelmeier for hosting the group, touring the field plantings and helping with local arrangements. Dave and John presented Pepper with a Certificate of Appreciation signed by Brian Mc Master, acting State Conservationist.

Students learning how to evaluate field plantings

Rose Lake PMC Establishes Pollinator Habitat Meadow

In the spring of 2008 the Rose Lake Plant Materials Center, in cooperation with the Xerces Society for Invertebrate Conservation, established a hedge row planting with various herbaceous and woody plants that are known to attract native pollinator insects. That planting was established by using vegetative material provided by the Xerces Society. In 2010 the PMC established a "meadow" planting using seeds of approximately 30 forbs species and 10 perennial grass species.

In 2010 only a few plants from the wildflowers planted were observed. However, in 2011 at least 20 forbs species and four grass species were observed. There are also other indigenous plant species in the planting. Some of the species observed were lance leaf coreopsis, purple prairie clover, bush clover, brown eyed Susan, Culver's root, little bluestem, and side oats grama. Native pollinator insects have been observed on those flowers throughout the growing season.

A special thanks to Mr. Chris Reidy, NRCS State Biologist, for working with the PMC to plan the species list and identify the various plant species in the field.

Bee visiting a flower in the Pollinator field

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