



Plants for Conservation

Elsberry Plant Materials Center

Elsberry, Missouri

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Soil Health and Cover Crop Workshop sponsored by the Lincoln County Soil and Water Conservation District and NRCS *Ron Cordsiemon, PMC Manager*

On November 5, 2015, the Lincoln County Soil and Water Conservation District and the NRCS Plant Materials Center sponsored a workshop on soil health.



Participants at the fall 2015 Soil Health Workshop view variety trials of selected cover crops

The day began by participants meeting at the Lincoln County Fairgrounds. Participants were able to visit with sponsors at their booths and also view various types of equipment associated with no-till and soil health practices. The group then loaded up on two charter buses and traveled to the Ellis Farm in Silex. At the Ellis Farm, the group was able to see a highboy cover crop seeder operate and also a couple of different fields that had been planted to cereal rye and oilseed turnips.

The event then moved over to the Elsberry Plant Materials Center, where despite some rain, participants were able to view over 40 different species of cover crops planted at 5 different dates beginning August 14th and planted every 2 weeks thereafter. Also the tour included stops at the varietal trials testing varieties adaptation for 5 different legumes, Black oats and Daikon radishes.

During lunch at the PMC shop building Lauren Cartwright, NRCS Ag Economist, demonstrated a Cover Crop Economics Decision Support Tool. The remainder of the afternoon was spent listening to farm owners who had incorporated cover crops into their farm management plan. The plan was to visit these farms but due to heavy rain plans changed. Overall the day was a success and a lot of valuable information was exchanged.

Warm Season Cover Crop Evaluation and Demonstration: Cover Crop Field Trial *By Jerry Kaiser, Plant Materials Specialist*

At the PMC a field trial was conducted with mixtures of warm-season cover crops drilled on 5-6-2015. This field trial was to collect data on the potential of warm season mixtures and what species will perform together and how much biomass can be produced. The warm-season cover crop mixture of the following species, each one representing 15% of the mixture. Cow Pea, Buckwheat, Forage Sorghum, Brown Mid-Rib (BMR), Grain Sorghum, Pearl Millet, Black-oil Sunflower, and Trailing Soybean. All species were seeded according to NRCS Missouri 340 Cover Crop standard rates.



Forage Sorghum, Cow Peas and Pearl Millet the dominate species in that order produce the amount of 9.7 average dry tons of biomass on this date in August 25, 2015.

The following species that perform the best according to growth potential, high biomass, and ability to survive with other species in a mixture were Forage Sorghum, (BMR) Pearl Millet and Cow Peas. Cow Peas had the ability to tolerate the shading and upright vining growth habitat that did well with the Forage Sorghum and Pearl Millet. The Buckwheat provided quick cover, but was shaded out by the developing species mentioned. Grain Sorghum and Trailing (bobwhite) Soybean did survive in the understory and produced seed but were minor components. The Black oil Sunflower did developed but was also shaded out with no viable seed being produced. A final biomass was harvested after a season ending frost in October. The overall average of 7.7 dry tons/acre for the 5 month growing season. For additional information, please contact Jerry Kaiser, NRCS Plant Materials Specialist, at jerry.kaiser@mo.usda.gov.

Earth Team Volunteers Donate to Local Food Pantry: *By Jerry Kaiser, Plant Materials Specialist*

Troy's Sacred Heart Catholic Church Men's Club members, Randy Brockman, Charles "Pete" Peterson, Mark Schuette, Ray Silvey and Jim Davies donated more than 150 hours of labor in FY15 as Earth Team volunteers. They cared for plants in a high tunnel located at the Elsberry Plant Materials Center during the growing season. After the produce was ripe, they picked the fresh vegetables and transported them to local food pantries in need including St. Vincent DePaul Food Pantry and The Bread for Life Food Pantry in Troy, and the Lincoln County Cupboard Food Pantry and Elsberry Nutrition Center in Elsberry. Together, the volunteers donated 1,530 pounds of tomatoes, 180 pounds of green beans, and smaller quantities of peppers and okra.

Technician's Corner

Plot Planter Modification

By Nick Adams, Biological Technician

The last three years the Elsberry Plant Materials Center (PMC) has planted a demonstration plot of 30 to 40 different cover crop species. While weighing out each packet of seed for all of those species I couldn't help but notice the wide range of seed characteristics such as color, shape, weight, and probably most important size.

Mixtures of cover crops has several benefits to the soil and even to the plants in the mixture; however if you don't plan ahead on how you are planning to get the seed in the ground you may not get your seed out of the ground. Seed size plays a big part on how deep the optimal planting depth is for a species. Larger seed such as winter peas should be planted about 1.5" deep while clover is about 0.25" deep. This is not to say peas cannot grow when planted shallower and clover won't grow when planted a little deeper, but without perfect conditions you will have few seeds germinate.

If you're planting a single species it's easy to decide how to set up your planter or drill and start planting. When mixtures are used it's not that easy. Here are some ideas that I have used while planting mixtures at the PMC that might be useful. First is to think about seed size as part of your decision process in picking a mixture to use. The closer the seed size the more compatible the planting depth will be. If drilling your cover crops in, try and use a drill with two or more seed boxes on it. Grouping larger seed of your mixture in the large box can be planted deeper, while the smaller seed grouped in the smaller box has a better chance staying on or near the top.

Without making a trip across the field for every species in your mix, there isn't going to be the perfect way to plant a mixture. However, a little planning and equipment set up, you will be able to give all of your seed the best chance of survival.

The Elsberry PMC Welcomes New Employee Mary (Mollie) Herget, Agronomist/Soil Conservationist



Mollie Herget will be joining the Elsberry Plant Materials Center as the new Agronomist. She is moving to Elsberry from Laramie, WY, where she completed her master's degree in Rangeland Ecology and Watershed

Management at the University of Wyoming. Her thesis research focused on the implications of native plant seed origin for ecological restoration success. After completing her master's degree, she worked for a year and a half as a researcher and lecturer for the university's department of Ecosystem Science and Management.

Before attending graduate school in Wyoming, she worked in the Conservation & Science Departments at both the Lincoln Park Zoo and John G. Shedd's Aquarium in Chicago, IL for five years. There, she worked on a variety of projects that involved wildlife and habitat conservation. Prior to living in Chicago, she received her bachelor's degree in Natural Resources and Environmental Sciences at the University of Illinois at Urbana-Champaign. While there, she worked on several tallgrass prairie restoration and stewardship projects. Being involved in these projects is how she initially became interested in the field of restoration and native plant conservation. Mollie grew up in Jacksonville, IL.

Staff and Contact Information

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