# Plants for Conservation

Elsberry Plant Materials Center

Elsberry, Missouri

*A newsletter in support of the Plant Materials Program for Missouri, Iowa, and Illinois*

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## Soil Health and Cover Crop Workshop sponsored by the Lincoln County Soil and Water Conservation District and NRCS

On November 7, 2013, the Lincoln County Soil and Water Conservation District and the NRCS Plant Materials Center sponsored a workshop on cover crops.

*L to R. Charlie Ellis of University of Missouri Extension, Keith Berns of Green Cover Seed, and Dave Robison of Legacy Seeds taking questions from the audience about their experiences and suggestions for using cover crops.*

The day started with a tour of the cover crop demonstration plots at the PMC. The demonstration plots were planted to showcase the effect of planting dates on cover crop productivity.

Beginning August 1, the staff of the Elsberry PMC planted 36 different species of cover crops. Each species was planted again every 14 days for five more planting dates. The six different plantings demonstrated the optimum time to plant each cover crop to achieve both above-ground and below-ground biomass. The plots at the PMC were divided into three sections; legumes/broadleaves, grasses, and Brassica species. The plots were also evaluated for biomass after the first killing frost. These plots had various data parameters collected and some of that data is being included into the Missouri Cover Crop Standards as well as possible inclusion into the RUSLE2 database.

The afternoon consisted of great presentations and discussion of various aspects of using cover crops and soil health. The discussions were led by Keith Berns of Green Cover Seed, Dave Robinson of Legacy Seeds, Doug Peterson with NRCS, and Charlie Ellis and Rich Hoorman, both with University of Missouri Extension.

## Cool Season Cover Crop Evaluations and Demonstrations: Cover Crop Field Trials

*By Jerry Kaiser, Plant Materials Specialist*

In Missouri a three-year field trial on cool-season cover crops was started in fall 2012. These on-farm field trials consisting of cool-season cover crop mixtures are being demonstrated and evaluated at eight different locations across the state.

NRCS Missouri purchased the seed and the Elsberry Plant Materials Center and specialist coordinated the mixtures and distribution of the seed with selected field offices and producers. Selected MLRAs were targeted in areas of cropland located in Jackson, Saline, Caldwell, Worth, Ralls, St. Charles, Perry, and Cape Girardeau counties. Mixtures of cover crop species were planted in 2012 and 2013 following either corn or soybean crops. Each field trial is 10 acres, subdivided into four, 2.5-acre plots. This allowed for three different cover crop species/mixtures per farm, and one unplanted check plot.

I worked directly with the field office personnel with 2013 data collection and field days with producers. The 2013 data will be available this winter. The data collected from the field trials will determine how the cover crop mixtures and cash crop performed. Collection of this data will be used to support or change Missouri NRCS' 340 cover crop standard for seeding rates and mixtures, planting dates, and cover crop growth patterns in different locations within the state.

Producers will benefit by determining which cover crop mixtures will perform best in conjunction with their cash crops of corn or soybeans. The local SWCD and NRCS office and producers will use the field trial sites for local field days to demonstrate, learn, and promote using cover crops in the area. Caldwell, Saline, and Cape Girardeau counties conducted field days for producers in March and November of 2013. .

NRCS in Missouri is committed to soil health and the use of cover crops as a tool to improve it. This practice is part of the Soil Health Strategic Plan for Missouri.

For additional information, please contact Jerry Kaiser, NRCS Plant Materials Specialist, at jerry.kaiser@mo.usda.gov or 573-898-2012.

## Illinois State Office Planting

In May 2013 the PMC staff, Illinois State Office staff, and the local Boy Scouts installed a demonstration planting outside of the Champaign, Illinois NRCS state office. The plants were started in the PMC greenhouse and were transplanted into black plastic.

*Boy Scouts helping to spread mulch around the demonstration plots outside of the NRCS Champaign Illinois State Office.*

The Boy Scouts Troop helped plant the plugs and spreading wood mulch around each species for walkways, as part of an Eagle Scout project. The planting will be used as identification training as well as beautification of the area.

*Boy Scouts using a trans-planter to install a demonstration planting outside the Illinois State Office.*

## Technician's Corner
## Plot Planter Modification

*By Nick Adams, Biological Technician*

As we started working through the process of the National Soil Health Study, we were concerned about what we were going to use to drill the cover crops through the corn residue. Dealing with small amounts of seed for the small plots, the obvious choice was our cone plot planter. The concern with using it was its ability to cut the corn stocks to get the seed into the soil.

We came up with a plan to construct a 3-point hitch extension onto which to mount coulters. The final design gave us the ability of controlling the no-till coulters depth independently of the depth of the Kincaid's seed placement. Using the 3-point controls on the tractor, you can select the depth of the no-till cultures. By adjusting the third-point turn buckle on the no-till extension, you can then square up the plot planter to its natural position for planting.

Purchasing a little metal, using old no-till coulters and a third-point turnbuckle lying around the farm made it an affordable modification. Last fall we were able to test the no-till extension, and we were extremely pleased with how well it cut through the residue in our study plots.

*A no-till 3-point extension for the Kincaid cone plot planter was used in planting cover crops in corn residue.*

## Staff and Contact Information

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