



How Healthy is your Soil?

December 2016 Snapshots



Back in 2015, the Minnesota Board of Water and Soil Resources received \$253,000 from the Minnesota Environment and Natural Resources Trust fund to accelerate the adoption of cover crops in order to reduce pollution runoff and sedimentation, improve water quality, and improve soil health across the 11 counties in southeastern Minnesota through education, outreach, and research. Much progress has been made on the project and everyone involved is learning about the benefits of cover crops, the opportunities and challenges associated with them, and the benefits of enhancing soil health over time.

Producers throughout the area are working with Soil Health Technician Dean Thomas, who works out of the Fillmore Soil and Water Conservation District office in Preston. Through this project, Thomas has been working to establish approximately 1,000 acres of cover crop demonstration projects on the ground to show their effectiveness in reducing soil erosion and runoff, improving water quality, improving the health of the soil, and providing secondary benefits of increased wildlife habitat. Thomas completes a cover crop seeding and management plan for each producer and then payment is provided to offset additional costs in incorporating cover crops into their routine cropping system for two or three years.



Field day held in Oronoco at one of the project demonstration sites.

A total of six workshops will be held during the winter time and will focus on providing technical information to practitioners in Southeastern Minnesota. The first two were held in March of 2016; one in Owatonna and the other in St. Charles. Attendance at these events totaled 72 with over 60% of the attendees being farmers and another 20% being agriculture professionals. The focus of these initial workshops was to explain the project objectives, goals, and plans, and also included group discussion on experiences and thoughts on cover crops; which has proven helpful in directing the focus of the project.



Rainfall simulator in use at the field day in Eyota.

Another nine field days will take place at demonstration sites to facilitate the discussion of cover crop benefits, establishment success, species selection, establishment and termination logistics, on-farm benefits to producers, and benefits to soil health and water quality. The first field day was held in August of 2016 in Eyota with approximately 100 people in attendance. Another field day occurred in September in Oronoco with 30 people attending.

A rainfall simulator was purchased for this project to provide a portable station where demonstrations of different land management practices during a rain event

can be made at field days, workshops, and other educational events. This simulation is beneficial in illustrating the effectiveness of cover crops in reducing soil erosion and runoff in a region of the state where cover crops are greatly needed and can have significant positive environmental impacts.

Producers will be providing economic information for a cost/benefit analysis of cover crop adoption by Dr. William Lazarus with the University Of Minnesota, Department Of Applied Economics. This previously lacking work will provide data on the diversity of situations in southeastern Minnesota and the issues that producers face in managing cover crops that are economically beneficial. The goal is to help producers make informed choices about cover crop adoption and management.

Additional project partners include the University of Minnesota Extension who are helping develop and conduct the workshops and field days, coordinate the participation of local and regional experts for additional educational events, and develop and disseminate educational materials. The University of Minnesota Forever Green Initiative, Natural Resource Conservation Service (NRCS), and Minnesota Department of Agriculture (MDA) have all assisted with guidance, resources, and training efforts. Through cooperation with staff from local NRCS field offices, Thomas has also helped coordinate a large number of Environmental Quality Incentives Program (EQIP) contracts to establish cover crops throughout the 11 counties.

This fall, soil samples are being taken after harvest on demonstration project fields with cover crops as well as adjacent non-cover crop fields to measure differences in soil biological activity. Both the Phospholipid Fatty Acid (PLFA) test and Haney test are being run to give producers an idea of the microbial community in their fields when cover crops are incorporated. These tests are not done frequently and will provide an additional measurement in the benefits of cover crops.

