

Workshop Agenda

9:00 a.m. – Registration, Coffee, and Rolls

9:30 a.m. – Soil Health Demonstrations

- Slake Test and Rainfall Simulator

10:00 a.m. – Speaker-Jodi DeJong-Hughes,
University of Minnesota Extension

- Tillage Effects on Soil Structure, Erosion,
Compaction, Water Infiltration and Storage

11:00 a.m. – MN Dept. of Agriculture and
Sustainable Agriculture Research and
Education Grant Research Findings

11:10 a.m. – Local Farmer Panel

12:30 p.m. – Lunch Provided

Non-Profit Organization
U.S. Postage
PAID
Permit No. 17
Jackson, MN 56143
Presorted

Please RSVP to Dane Huinker
by January 16th.

Call 507-662-6682 x3 or email
dane.huinker@co.jackson.mn.us

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HERON LAKE WATERSHED DISTRICT
P.O. BOX 345 • HERON LAKE, MN 56137



Building Your Soil and Your Bottom Line

Tillage and Cover Crop Workshop

Monday, January 22, 2018

9:00 a.m.

Heron Lake
Community Center
312 10th Street
Heron Lake, MN



Increasing Soil Health and Infiltration with Cover Crops



Project Layout

This project included two 35-acre, side-by-side field plots. One field was seeded with cover crops and one was not. Both fields have the



same cropping history of corn and soybeans; along with ridge till management practices. The cover crop seed included 23 pounds of Annual Rye, 4.8 pounds of Radish, and 19.6 pounds of Spring Wheat. This mix was chosen to prevent soil erosion and improve infiltration. Field comparisons were conducted over a two-year grant duration.

From each 35-acre field, two soil samples were collected along with one control sample taken in a grassed area. These samples were sent to the lab to determine the soil health using the Haney soil test. The Haney soil test compared micro community activities in the soil over the two-year duration of the grant.

Infiltration tests were also conducted in the spring and fall. Infiltration is measured by placing a six-inch (height) by eight-inch (diameter) ring in the soil three inches deep, then adding sixteen ounces of water to the inside of the ring. The amount of times it takes to infiltrate sixteen ounces of water is recorded as an infiltration rate of inches of rain per hour.

Yield data was also collected during harvest and a simple per acre economic analysis was completed for the two fields. Cost of cover crop seed, fertilizer, and crop seed, as well as crop yield and value, gross income, and net income were included in the cost analysis.

Results

Infiltration rates were higher in the field with cover crops the first year of the study and opposite the second. In 2017, manure was hauled on the cover crop field. The location of the infiltration test was within this high traffic area. Compaction from the heavy equipment could be the reason for a slower infiltration rate.

Soil samples were collected in each of the two fields and two Haney soil test were completed. A control sample was collected in a grassed area. Each Haney soil test result was compared using the soil health calculation, seven or higher indicating healthy soil. The field with cover crops had an average soil health calculation of 17 over the project duration and the field without cover crops had an average of 13. The grassed area had 19 for an average. The cover crop field showed a higher soil health calculation over the two years compared to the non-cover crop field.

