



Cover crops -- good for soil, good for water



By Dorothy Tate, ISA public relations manager

Momentum continues to build behind the Miller Creek Water Quality Improvement Project in Black Hawk County. More than 50 farmers showed their interest in the project and willingness to learn about new practices by attending a field day about the Haney soil test and cover crops hosted outside of Buckingham on the Foss Family Farm.

The atmosphere of seeking to understand and gather knowledge prevailed as Lance Gunderson from Ward Laboratories, Inc. jumped into the intricacies of soil biology, detailing how the Haney test determines biology and what those numbers can tell farmers about their soil and even what cover crop mix to plant.

“Soil biology is about keeping your soil microbes diet balanced,” Gunderson said.

The Haney test goes beyond testing soil fertility and analyzes the level of microbial activity in the soil.

One key component of soil biology is the amount of organic carbon (C) present. Gunderson describes organic C as a refrigerator that stores food for soil microbes. Like a teenager, if the refrigerator is empty, organic C “burns the house down,” or in other words, consumes the soil organic matter, ultimately having a negative effect on soil fertility.

Roots — specifically cover crop roots — are a great source of organic C for soil microbes, which is one reason the Haney soil test provides a recommended cover crop mix depending on the numbers produced by the test.

Farmers in the Miller Creek Watershed can receive a complimentary Haney soil test through the water quality improvement project. Interested farmers should contact Shane Wulf at Shane.Wulf@ia.nacdn.net or 319-296-3262 x305.

In closing Gunderson reminded farmers that sometimes this is a one step forward, two steps back process.

“Don’t get discouraged the first time,” Gunderson said. “We often see health scores go down the first year because microbes are active longer — seven months instead of five. Year three is typically when we see breakeven and then we catch back up.”

Beyond improving soil health, cover crops also can improve water quality. Nitrogen loss from soil is a negative for farmers and can cause issues downstream in acceptable quality of municipal water sources. The Iowa Nutrient Reduction Strategy identifies cover crops as among the practices that help mitigate nitrogen loss — up to 31 percent in fact.

Chris Foss and daughter Kristi Heffelmeier hosted the field day at their family farm. Foss first tried cover crops two years ago on a field where he wanted to provide extra cover for exposed soil and liked the results he saw.

“I’m open to ideas and after trying cover crops one year I thought ‘why not’ try it again,” Foss said.

Last fall, he planted cover crops on a different field and hit a home run in water quality. For the past couple of years, Foss has participated in the Iowa Soybean Association’s water monitoring program. This spring, his tile line numbers showed a decrease in nitrates moving off the field planted to cover crops.

When comparing water nitrate levels leaving his field to those of the receiving stream, Foss saw a reduction of almost 50 percent, indicating that the cover crops were significantly reducing the nitrates coming off his field.

“This is a great example of how water monitoring in conjunction with a practice can show results,” said Adam Kiel, ISA state water resources manager. “We were encouraged to see a substantial reduction in nitrates moving off this field after the addition of cover crops last fall. Many people may not realize the effect that cover crops can have to retain nitrogen on fields, so this demonstrates the positive impact planting cover crops can have on water quality.”



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