

Rock Creek Watershed

Take your soil back. Regenerative farming is the way, by letting nature work for you. And guess what? It's free!



IN THIS ISSUE

Cover Crop Adoption

Increasing or maintaining soil health is critical for farm sustainability and profitability. See below how Cover Crops can improve your soil health, and in turn your farm profitability.

Tillage/Residue Management

Reduced tillage is often associated with a Cover Crop adoption, and is a great example of letting the land work for you. See below for a Conventional Tillage vs. Reduced Tillage cost/benefit analysis.

Soil Health Testing

The Haney Soil Health Test

Additional Conservation Projects

See pg. 4 for a list of available cost-share opportunities through the Rock Creek Watershed Project

2022 Big Soil Health Event

By Devin Stortz – Project Coordinator

After attending the 2022 Big Soil Health event in December, I was more than inspired to bring back what I had learned to Mitchell County. In attendance were more than 700 farmers from across the Midwest with a shared message of, "Why we need a new vision for agriculture, and how it starts with Sustainable Farming". How do we get to the state of being a sustainable farm and how much is it going to cost? My goal is to show you how to use nature to power your farm, and how nature will do it for free.



Cover Crop Adoption

BY DEVIN STORTZ

Creating a Healthy Soil that Works For You

Crop farmers can think of their soil as the battery to that farm field, and Carbon is what charges the battery. Keeping Carbon in the soil is essential to maintaining a regenerative and sustainable farm, so how do we obtain and trap Carbon in our soil?

Cover Crops planted in the fall help protect the soil from wind & water erosion as well as provide an increased opportunity for rainwater infiltration. Through infiltration, Carbon is extracted from rainwater and utilized to create FREE Nitrogen and Phosphorus in the soil. When the Cover Crop expires in the spring it will break down and decompose, and the product of this decomposition is our Organic Matter.

Organic Matter is nutrient rich while being composed of nearly 60% Carbon, and is the food source for microorganisms, such as earthworms, therefore is essential for sustaining their habitat. Over time, Organic Matter is integrated into the top layer of soil, and helps to regulate moisture and temperature as well as microbial activity. As microorganisms break down Organic Matter, they leave behind FREE Nitrogen and Phosphorus.



Utilizing the protective canopy of Cover Crops and Reduced Tillage in the spring is ultimately the most effective weed suppression tactic we have. As microorganisms break down Cover Crops into Organic Matter, it provides a barrier between exposed soil and sunlight. Therefore annual weeds are unable to reach necessary sunlight and their emergence is suppressed.

Cover Crops allow the soil to catch Carbon from sunlight and rainwater, build Organic Matter, create FREE Nitrogen and Phosphorus, and suppress annual weeds. As the soil becomes more sustainable through regenerative practices opportunity arises to cut back on applied N, P, K and herbicide, and that's how we let nature work for us.

Cover Crop cost-share options are available through the Rock Creek Watershed Fund



Conventional Tillage vs. Reduced Tillage

Fertilicide is defined as excessive use of fertilizer, herbicide, and tillage. Or in other words, farmers are paying big money annually for applied fertilizer and herbicide when nature can do the same thing.

Conventional Tillage is the act of plowing up corn and soybean stubble after harvest in the fall, and soil finishing in the spring before planting. This practice strips the soil of its' ability to feed itself by releasing Carbon and exposing the soil to nutrient loss via runoff. Conventionally causing the soil to become "dead", relying on applied fertilizer to be "alive" again, and this can become an expensive management plan in today's economy.

Reduced Tillage is leaving corn and soybean stubble in the field until next spring when you plant into it. By leaving corn and soybean residue on the field we're providing a protective cover as well as a source of Organic Matter for the soil and its' microorganisms. Again, we're allowing the soil to feed itself instead of exposing the soil seed bed to sunlight and releasing annual weeds through tillage in the fall and spring.

Tillage and Residue Management

BY DEVIN STORTZ



As a country, reducing our Carbon footprint has been a popular topic surrounding issues related to environmental degradation. Transitioning from conventional tillage to reduced tillage is a way for all farmers to contribute in keeping Carbon in the soil, working for us, and less emitted into the atmosphere. Carbon is FOOD for our microbial communities and their product is Nitrogen. Another example of letting nature work for you, and it's free.

Reduced Tillage cost-share options are available through the Rock Creek Watershed Fund



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*The Mitchell Soil & Water
Conservation District is an Equal
Opportunity Provider and
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Booster Club Membership

Name:

(as you would like it to appear in our report)

Address:

Donation enclosed:

\$

(payable to Mitchell SWCD)

Mail to: Mitchell SWCD—1529 Main St.—Osage, IA 50461

The following are made possible
with your support:

- ✓ **Scholarships** – for Mitchell County high school seniors pursuing a degree in Agriculture or Natural Resources
- ✓ **Trees for Communities**
- ✓ **Outdoor Classrooms**
- ✓ **Public Events**
- ✓ **Conservation District Employees**

The Mitchell Soil & Water Conservation District (MSWCD) programs are made possible by your support. Donations are accepted at any time of the year, and any amount you choose to give is appreciated. Checks should be made payable to "Mitchell SWCD", and you will receive a receipt for your donation. The MSWCD Commissioners thank you for your generosity.

Commissioners: Bruce Johnson, Sue Sletten, Eric Jellum, Dana Norby, and Jackie Armstrong
Assistant Commissioners: Milt Owen, Chelsea Rowcliffe, and Dale Hemann

Support Levels:

Supporter (\$1-\$49)

Sustainer (\$50-\$99)

Steward (\$100 and up)



Sustainable Farm Programs

Additional Cost Share Opportunities

Cover Crops - \$25/acre

No Till/Strip Till - \$15/acre

Nitrification Inhibitor - \$3/acre

Denitrifying Bioreactor – 75% cost share

Saturated Buffer – 75% cost share

Waterways – 75% cost share

Wetlands – 75% cost share

Edge of Field Buffer Strip – 75% cost share

Ag Waste Structure – 75% cost share

Streambank Stabilization – 75% cost share

Grade Stabilization – 75% cost share

Tree Planting

Sediment Basin

Nutrient Management



Call Us Today At (641) 732 5504 To Discuss Options!



Soil Health Testing

BY DEVIN STORTZ

Step 1: Test Your Soil

There are several indicators each year that tell us about our soil. We can have wet spots, weed spots, higher yields, lower yields, etc.. Soil testing is an effective process in maintaining sustainable soil health as it provides us insight on the amount of available nutrients we already have, and how much we need to apply in order to reach our desired yield. The leading cause of decreasing soil health is intensive crop patterns, tillage, and the use of imbalanced fertilization. Adding soil health tests to a farm program can save money, time, and effort through maximizing our soils potential.

Conventional soil health tests involve extracting a 0-6" soil core from several points across your field, and analyzing for levels of Nitrates, Phosphates, Carbon, and Organic Matter. These levels will give you a general idea of your soils condition and its' ability to grow a successful crop that season. However, it's important to note that although Nitrate is the most common form of Nitrogen and Phosphate the most common form of Phosphorus, these are not the only forms of Nitrogen and Phosphorus in the soil.



The Haney Soil Health Test takes a different approach requiring a soil core from 0-6" as well as 6-12" from various points across your field. This test analyzes for ALL forms of Nitrogen and Phosphorus available to the microbial community that powers our soil. Soil health is dependent upon the microbial activity within it to use and recycle Carbon into Nitrates and Phosphates usable by the plant. Through increased water infiltration, Organic Matter, and protection, the microbes flourish and the soil can properly sustain itself. This is when the process starts to benefit your regime.

The Haney Soil Health Test aims to measure a biomass of the microbial community present, and the wide variety of nutrients available to them. The key to a healthy soil is the presence of microorganisms working in partnership with the growing plant to trade Carbon for Nitrogen in a sustainable cycle of nutrients.