



St. Joseph
County
Soil & Water
Conservation
District



Today's Visions for Tomorrow's Future

May/June 2017
Volume 19, Issue 3

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What's Going On...

*Events hosted by the St. Joseph County SWCD
& Our Partners in Conservation*

May

16th - Monthly Board Meeting
Open to the Public 7 PM
LOCATION: Alligator
Room Centre Township
Library at Kern and Miami
Roads in South Bend - 1150
Kern Road South Bend, IN
46614

29th - Memorial Day - Office
Closed

June

Raingarden Workshop

Date, Time, & Location TBA
6th - Project WILD and
Growing up WILD. 8:00 am
until 4:00 pm. The Center at
Donaldson, 9601 Union Rd.,
Donaldson, IN,
www.projectwild.org.
Register by emailing
Richard.glassman@in.nacdn.net

16th - Project Learning Tree,
8:00 am until 2:00 pm. St.
Patrick's County Park, Brown
Barn, 50651 Laurel Rd., South
Bend, IN. www.plt.org.
Register by calling the county
parks 574-654-3155. Or
emailing
Richard.glassman@in.nacdn.net

20th - Monthly Board Meeting
Open to the Public 7 PM
LOCATION: Alligator
Room Centre Township
Library at Kern and Miami
Roads in South Bend - 1150
Kern Road South Bend, IN
46614

July

3rd - County Holiday
4th - Independence Day

Rain Gardens Go with the Flow

By: Rosie Lerner, Purdue Extension

Rain gardens are areas of the landscape designed to catch rainwater long enough to allow it to percolate slowly back into the groundwater rather than run off the soil. Rain gardens help recharge groundwater, improve the water quality of streams and rivers, reduce flooding, and provide cover for wildlife and butterflies.

Rain gardens can be just shallow depressions of a few inches or elaborately constructed sites, depending on available space and needs of the site. The garden's topography should be designed to encourage water flow into the garden. The site must drain well enough to allow slow and steady percolation into the groundwater. Soil drainage can be greatly enhanced by additions of finished compost in preparing the area.

Ideally, the rain garden should be located away from (10-foot minimum) and a bit below the grade of structures, such as the house, toolshed and garage. Rain barrels can be used to collect runoff water from house drainpipes and redirect to the rain garden. Reasonably level land will be much easier to work with.

Avoid placing the rain garden over a septic drain field or tank; a buffer of at least 50 feet is recommended. Be aware of shallow utilities in the area, and always call to locate and mark these utilities before you dig. Also avoid the edges of steep slopes where erosion is a risk.

As you consider the overall landscape design and appearance, like other gardens, you'll need to consider the mature size, growth habit, flowering, fruiting and other characteristics of your plant selections. Most rain gardens feature moisture-tolerant perennial flowers, native wetland or wet prairie wildflowers, and grasses, but shrubs and trees can be used in larger gardens. Keep in mind that plants will also need to be tolerant of periodic dry spells as well as heavy rains.

The following are a few species to consider for your rain garden planting, but it's by no means an exhaustive list.

Grasses

Big Bluestem
Indiangrass
Little Bluestem
Various Sedges

Flowers

Aster
Black-Eyed Susan
False Indigo
Flag Iris
Goldenrod
Great Blue Lobelia
Ironweed
Joe Pye Weed
Liatris
Penstemon
Swamp Milkweed

Shrubs

American Beautyberry
Arrowwood Viburnum
Bottlebrush Buckeye
Buttonbush
Oakleaf Hydrangea
Summersweet Clethra
Sweetspire

Trees

Bald Cypress
Fringetree
Ginkgo
Red Maple
River Birch
Sycamore



R a i n g a r d e n

Workshop

When: TBA

If you are interested in attending this **FREE** workshop, please contact our office to receive more information at: (574) 936-2024 Ext. 4 or info@stjosephswcd.org. Space is limited so contact us today!



Behold the benefits of organic matter!

Organic matter matters. In fact, there may be no other component that's more important to a healthy soil than organic matter. The tiny fraction of soil composed of anything and everything that once lived—organic matter—is more than an indicator of healthy soils.

The carbon in organic matter is the main source of energy for the all-important soil microbes and is also the key for making nutrients available to plants. Here are just some of positive influences high levels of organic matter have on healthy soils:

1. Provides a carbon and energy source for soil microbes
2. Stabilizes and holds soil particles together
3. Supplies, stores, and retains such nutrients as nitrogen, phosphorus and sulfur
4. Improves the soil's ability to store and move air and water
5. Contributes to lower soil bulk density and less compaction
6. Makes soil more friable, less sticky, and easier to work
7. Retains carbon from the atmosphere and other sources
8. Reduces the negative environmental effects of pesticides, heavy metals and other pollutants
9. Improves soil tilth in surface horizons
10. Increases water infiltration rates
11. Reduces crusting
12. Reduces water runoff
13. Encourages plant root development and penetration
14. Reduces soil erosion

Increasing organic matter: A matter of good soil health management

Considering the long list of benefits organic matter has on soil health and crop production, increasing organic matter may well be the most important management step a producer can take to improve a farm's profitability and sustainability. In general, there are three ways to do that:

- Increase the amount of plant and root production
- Apply carbon-rich materials to the soil; and
- Use practices that slow rather than speed decomposition.

Cover crops, green manure crops, and perennial forage crops add organic matter, as do compost and manure. Growing crops and roots add biomass above and below the soil surface. However, not all that biomass is converted to soil organic matter—much of it is released as carbon dioxide and water. It can take 20,000 pounds of organic inputs such as crop residue to increase the actual soil organic matter from 4 percent to 5 percent.

Compost in particular breaks down more slowly and improves soil structure more quickly than other organic

materials. Manure breaks down quickly to add nutrients for crops, but takes longer to improve the soil than compost.

Organic Matter: Choose it. Don't lose it.

Organic matter is vital to healthy soils, yet most modern agricultural operations are not managed in ways to retain high levels. Only half the original organic matter remains in most modern cultivated soils. In general, organic matter levels have fallen from 5-6 percent of the soil to less than 3 percent on most cropland soils.

Using tillage depletes organic matter. Each time the soil is tilled, oxygen is stirred into it, stimulating microbial action to decompose organic matter at an accelerated rate. As a matter of fact, when a woodland is cleared and planted or a prairie is plowed, most of the organic matter that was built over hundreds of years is lost within 10 years of tillage.

Combining frequent tillage with farming practices that leave little plant residue for soil microbes to eat (such as burning or removing crop residues) will lead to the depletion of organic matter.

Active and inactive, Organic Matter delivers

Organic matter can be divided into two categories: active and stabilized. The portion made of fresh organic material and living organisms, as well as partially decomposed material that is slowly decomposing, is called "active organic matter."

Active organic matter and the microbes that feed on it are central to nutrient cycles in the soil. Nutrients, especially nitrogen, phosphorus, and sulfur, are held in this active organic matter until soil organisms release them for plant use.

This accounts for there being much more nutrient volume in the soil than is available for plant use at any one time. For example, a soil with 3 percent organic matter contains about 3,000 pounds per acre of nitrogen, but only a small part of that (30-100 pounds) may become available to plants in any one year, depending on decomposition rates.

While active organic matter may decompose over a few decades, the stabilized portion of organic matter is made of larger, more complex compounds that are much more difficult for microbes to degrade. Much of the stabilized organic matter in the soil is highly decomposed plant and animal tissues that grew more than a century, and possibly several centuries, ago. This organic matter becomes carbon-rich humus that's resistant to further decay.

"Stabilized organic matter" or humus, acts like a sponge and can absorb six times its weight in water. It's also a reservoir for nutrient storage, sequestering carbon from the atmosphere and other sources

Healthy soils need both active and stabilized organic matter to function well. To learn more about soil health, and to meet some of the farmers who are "Unlocking the Secrets in the Soil," visit www.nrcs.usda.gov.

Farming for the Future

Combining Productivity, Profitability, and Conservation

On Tuesday February 28, we joined with the Marshall & Starke County SWCD's to host a producers workshop at Christo's Banquet Center in Plymouth, IN. Brad Clayton opened the day with "Healthy Soils." Three breakout sessions included; Cover Crops, Nutrient



Management & No-Till practices. The afternoon session was a farmer speaker panel which gave the attendees a chance to ask questions to farmers and NRCS staff on what

health than I got. I'm not saying dad or grandpa did it wrong, but I just want to do better."

Thank you to all who attended and helped make our workshop a success.



works, what doesn't and why they do conservation on their farms. Nathaniel Ness said, "I want to leave better soil



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Thank you to our Speakers:

- ♣ Brad Clayton
- ♣ Tom Moneyheffer
- ♣ Jim Camberato
- ♣ Nate Mrozinski
- ♣ Derek Thompson
- ♣ Scott Haley
- ♣ And our Farmer Speaker Panel



Experts talk soil health

Written by USDA's Natural Resources Conservation Service

When it comes to water, cover crops give more than they take, expert says.

It's a fair question. Why would farmers want to plant a cover crop that uses up water? But David Lamm, a soil health expert with USDA's Natural Resources Conservation Service, says it's what those cover crops give – not what they take – that's the secret.

"By using diverse annual cropping rotations and cover crop combinations soil organic matter is increased. And for each 1 percent in organic matter, there is a 25 percent increase in water holding capacity and up to 30 pounds an acre more of available nitrogen," he said.

In a recent survey by the Conservation Technology Information Center, 600 farmers affected by the drought of 2012 reported an average increase of 14 bushels of corn per

acre and five bushels more of soybeans per acre where they had a cover crop as compared to none.

Lamm said that while it's true cover crops use some water in the soil profile to grow, they simultaneously improve the soil structure by building soil aggregates, providing armor for the soil surface, and recharging the water in the soil profile though increased infiltration.

"By using cover crops, no-till and crop rotations, farmers are finding that their soil actually has more available water for their cash crops when those crops really need it," he said. "So those covers actually help protect farms against weather extremes like drought."

For more information on how to "Unlock the Secrets in Your Soil," call or visit your local USDA Natural Resources Conservation Service office or visit www.nrcs.usda.gov.



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St. Joseph County Soil And Water Conservation Partnership

Now is the time to start thinking about Cover Crop Seeds! We have cost share money through the Clean Water Indiana Grant to help you get started. Contact our office for more information and to get an application. (574) 936-2024 Ext. 4 or info@stjosephswcd.org

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Scan me to go Green!

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