



Conservation in the Neighborhood

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IUPUI Offers Fall Soils Class

Summer is here! Construction, home outdoor projects, gardening and other outdoor activities are in full gear. Whether we recognize it or not, most of our projects and plans will be affected by the soil. The more you learn about soil, the better decisions you will make. Knowledge of your soil properties will make the difference between success and failure.

We highly recommend IUPUI's "Soils Geography" course being offered this fall. Registration is going on now for the fall semester and several options for taking the class are available.

The soil classes offered this fall will meet on Thursday evenings starting Aug. 27th.

Three options allow for a one credit soil survey, or 3 undergraduate or graduate credits.

To view options and be admitted as a visiting or non-degree student bring documentation of academic degrees to the registrar at IUPUI, contact the Admissions Center at <http://enroll.iupui.edu/admissions> or phone (317) 274 4591. For walk-in admissions information and assistance with registration go to Admissions Center, 255 Campus Center, 420 University Blvd. For further course information contact: Dr. Rick Bein -

Phone: (317) 274-1100; Department (317) 274 8877; Fax: (317) 278-5220
[\[rbein@iupui.edu\]](mailto:rbein@iupui.edu) IUPUI, Cavanaugh Hall, Room 213D, 425 University Blvd, Indianapolis, IN 46202.



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For more
information on
Water Quality
visit our website:
www.marionswcd.org



Steps to Protect Our Streams

By Heather Buck, SWCD Vice Chair

As we make our way through the Spring and Summer rain events, many of us may not think past our own backyards. However, the water that runs from our property to the street, swale, or roadside ditch may be wreaking havoc downstream. The stormwater may travel over our lawns collecting excess fertilizer, pet waste, or yard debris; it may travel over driveways gathering oil from our leaking vehicles; or it may travel to a clogged driveway culvert, eventually causing localized flooding and erosion. Once the stormwater makes its way to the storm sewer in the street or the small stream down the road, these pollutants are delivered directly to that system, further impacting the water quality of the stream and impacting the fish and macroinvertebrates that reside within the stream. But what can an individual resident do to prevent these negative impacts?

There are several measures that can be taken to lessen the burden on the streams; many of which also have a positive impact on our own quality of life.

You can:

- **Pick up after your pet:** Pet waste contains several forms of bacteria which may be harmful to humans, other pets, and the animals in the streams and ponds. Learn more and make a pledge to pick up your pet's waste at <http://indiana.clearchoicescleanwater.org/pets>
- **Reduce your fertilizer and pesticide usage:** You may start with a soil sample to determine the amount of nutrients available and the amount needed for a healthy lawn. Be aware and ensure that these materials are correctly applied and that chemicals are not landing on sidewalks or driveways.
- **Plant native species:** Native plant species are accustomed to Indiana weather and soils, often requiring less water, fertilizer, and pesticides. Many of these plants also provide benefits such as a food or shelter source for birds and pollinators. Visit <http://www.inpaws.org/> to learn more about Indiana's native plants and wildflowers.
- **Install a rain garden:** While you may need some assistance with the proper design and placement, rain gardens can be created based on factors such as soil/sun conditions, color preference, and space availability. These gardens allow pollutants to be filtered from stormwater as well as assist with getting water into the soil and keeping it from the storm sewer. <http://www.indy.gov/eGov/City/DPW/SustainIndy/GreenInfra/Pages/RainGardenResources.aspx>
- **Keep drainage ways clear:** If you have a driveway culvert or drainage swale on your property, it is very important to ensure water can pass through these systems. Keep culverts cleared of debris and repair small damages as they occur. This helps to reduce localized flooding and erosion along streets.

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- Wash your vehicle in the grass: This allows detergents and any debris or dust from the vehicle to soak into the soil rather than enter the storm drains and be delivered to the streams. Vehicle wash water may contain metals (from areas such as brakes), petroleum based products, and other pollutants.
- Watch “Blue is the New Green”: This 10 minute video reviews the Do's and Don'ts of basic stormwater pollution prevention practices that should be implemented by everyone in their home, in their yard, and when they are out and about. <https://www.youtube.com/watch?v=CtZESzaReps&feature=youtu.be>

It's not imperative that you begin all of these practices at once, start small and work your way through the options. Pass this information along to your neighbors, family, and friends to increase the overall impact that we all have downstream. For more information on these topics, and many more conservation practices, please contact the Marion County SWCD!

When we cast our bread upon the waters, we can presume that someone downstream, whose face we may never see, will benefit from our action

~Maya Angelou

For more information on upcoming events visit our website at marionswcd.org

District Education Corner

The Marion County SWCD staff and board of supervisors have been busy promoting conservation! Below are highlights from some of their work and where to find us this spring.

Growing Up Wild curriculum workshop - June 7th at Paynetown State Recreation Area for educators of children ages 2 to 5 years old. Cost -\$20 which includes a copy of the curriculum. Register by June 1st by contacting Paynetown's Activity Center 812-837-9967 or email Jill Vance at jvance@dnr.IN.gov

Free Fishing Days - June 6 & 7 -Indiana residents may fish public waters without a fishing license or trout/salmon stamp on these days. Indiana Department of Natural Resources' **Go Fishin in the City** program provides great shore fishing opportunities by stocking channel catfish and rainbow trout in small city lakes, including those in Indianapolis. Find a place to fish nearby by visiting their website: <http://www.in.gov/dnr/fishwild/7508.htm>

Hoosier Riverwatch Training -Several dates and locations coming up throughout the summer. For information and to register at http://www.in.gov/idem/riverwatch/files/training_schedule.pdf

Shoreline Enhancement Workshop - June 13th, 9 a.m. Ridgefield Subdivision, Fishers. This free workshop will cover many topics of interest to landowners and homeowners associations with retention ponds. To register contact Dan McCord at 317-997-2296 or email dan.mccord@comcast.net More information can be found at <https://www.z2systems.com/np/clients/uwrwa/event.jsp?event=193>

Soil Health Workshops - Plans are being made for opportunities throughout Marion and Hendricks counties this summer. Watch for more information on our website www.marionswcd.org or contact Kevin Allison at kevin-allison@iaswcd.org Other soil health education classes throughout the state can be found at http://ccsin.iaswcd.org/?page_id=147



5 Questions for Landowners



“A field that has bare soil is subject to erosion and loss of organic matter”

SWCD staff is available to assist you with your soil and water resource needs. Call the office to set up an appointment

317-786-1776

More farmers, ranchers and others who rely on the land are taking action to improve the health of their soil. Many farmers are actually building the soil. How? By using [soil health management systems](#) that include cover crops, diverse rotations and no-till. And when they're building the soil they're doing something else – they're also building the land's production potential over the long-term.

But how do non-operator landowners (people who rent their land to farmers) know if their tenants are doing everything they need to do to make and keep their soil healthy? Barry Fisher, an Indiana farmer and nationally recognized soil health specialist with the USDA's [Natural Resources Conservation Service](#), recommends that they ask their farming partner these five questions.

1. Do you build organic matter in the soil?

Organic matter (carbon) may be the most important indicator of a farm's productivity. The amount of soil organic matter often determines the price farmers will pay to rent or buy land. Finding a farmer who is interested in building organic matter by using practices like no-till and cover crops is like finding a bank with a better rate on a Certificate of Deposit, Fisher says.

2. Do you test the soil at least once every 4 years?

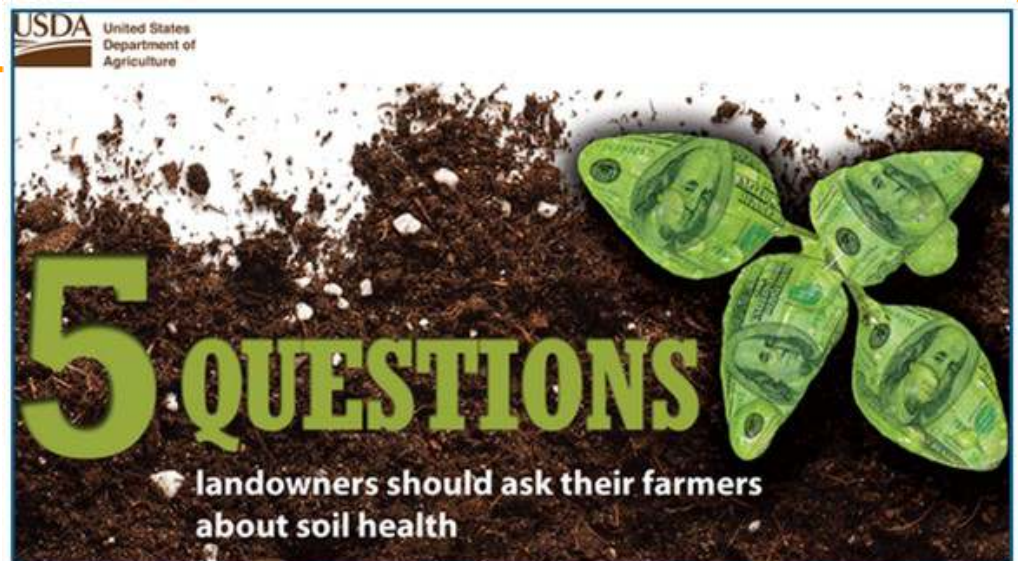
Fisher says maintaining fertility and pH levels are important to your farm's productivity. Regular soil testing can give an indication of trends in soil fertility, pH and organic matter levels in each field. These tests will determine the amount of fertilizer each

field needs. If a field has a history of manure application and very high fertility, a farmer could save money by planting cover crops to keep those nutrients in place rather than applying more nutrients that may not be needed.

3. Do you use no-till practices?

Some landowners like the look of a clean-tilled field in the springtime. That “nice look” is short lived, though. “The reality is a field that has bare soil is subject to erosion and loss of organic matter, since it no longer has the protective cover from the crop residue on the surface,” Fisher says.

“No-till farming utilizes the crop residue to blanket the soil surface to protect it from the forces of intense rainfall and summer heat. This protective blanket will conserve moisture for the (Continued on p. 6)



Cover Crops & Nutrients for Soil Health



Crimson Clover cover crop

By Kevin Allison, Soil Health Specialist

At Earth Day Indiana, the Marion County SWCD distributed seed packets of crimson clover and daikon radish cover crops generously donated by Cover-CropsUSA. Interseeded into late vegetables or planted after harvest, this cover crop blend will provide a living plant canopy that shades out weeds and protects otherwise bare soil from the erosive impact of rain drops. However, the benefits go far beyond “off season” weed suppression and erosion control. In a soil health garden, there is no off season, and there is no putting the garden to bed. Cover crops take the stage to manage nutrients and biologically improve the soil.

Plants do amazing things in their quest to obtain the elements necessary for growth. Some broaden their leaves, some reach to the sky, and some even trap flies. In the soil, the story continues. A radish root drills down through the soil profile and scavenges leftover nitrogen from decaying plants, compost or fertilizer applications. Meanwhile, the crimson clover, a legume, takes

advantage of a special relationship with bacteria that actually form nodes on its roots and produces nitrogen. Collected

in their biomass and released through decomposition, this nitrogen will become available to future vegetables or stored into a healthy soil’s powerful nutrient bank.

In an unhealthy soil, essential plant elements like nitrogen and phosphorous can easily escape into water and negatively impact aquatic habitat and water quality. Maintaining continuous and diverse plant life on farms, gardens and greenspaces encourages a web of roots and soil life that engineer a soil ecosystem to infiltrate, catch, store and cycle these nutrients. Soil Health keeps them out of our waters and vital for human and animal nutrition.

Expect the daikon radish to be killed by the frost in wintertime and the crimson clover to survive into spring. Before spring vegetable planting, many growers incorporate the clover into the soil before planting vegetables to speed up decomposition and create a cleaner seed bed. While turning cover crops into the soil is a useful approach and can be timely for early vegetable production, minimizing the depth and frequency of tillage as much as possible has lasting effects on the health of soil eco-

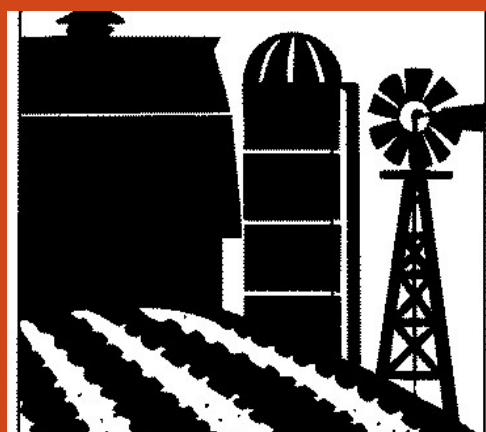
system. One attractive cover cropping strategy is to allow the crimson clover to grow and produce nitrogen into its flowering stage. After its budding but before the flower develops seeds, cut, mow, or crimp the plants and leave the plants as mulch on top of an undisturbed soil. Open a gap in the cover crop residue and transplant your vegetables into a healthy no-till soil!

For more information contact the Marion County SWCD office at 317-786-1776 or visit our website:

www.marionswcd.org



Winter Pea cover crop fixates nitrogen at Fall Creek Gardens



FSA NEWS

The latest updates on Farm Service Agency programs and sign up dates can be found on their website:

www.fsa.usda.gov

or call 317-736-6822



*District
Conservationist
Jerod Chew is
available to assist
farmers with their
conservation needs*

*Join our Stop That
Dirt Campaign at
marionswcd.org*

(Continued from page 4)

crop and prevent loss of soil from wind erosion, water erosion and CO₂ (carbon) that could be burned off by summer heat.”

4. Do you use cover crops?

“Like no-till, cover crops provide a green, protective blanket through the winter months or fallow times. The green-growing cover is collecting solar energy, putting down roots and providing habitat when the soil would otherwise be lifeless and barren,” says Fisher. This habitat provides food and shelter for a broad population of wildlife above ground and beneficial organisms below ground. As the new life emerges, cover crops hold onto the nutrients left from the previous crop and in turn releases them to the next crop. The solar rays these plants collect are powering photosynthesis, taking in CO₂ from the atmosphere to produce food for the plant and the organisms living in the root zone. This same process also releases clean oxygen to the air and builds nutrient rich organic matter in the soil.

5. What can we do together to improve soil health on my land?

To improve soil health, landowners and tenants have to think in terms of the long-term. According to Fisher, the duration of the lease agreement is perhaps the most critical matter in encouraging the adoption of these soil health management systems. “Farmers can actually build the production capacity and resiliency of their landowner’s soil, but it may take several years to realize the full benefits of doing so,” Fisher says. He suggests that landown-

ers consider multiple-year leases that provide tenure security for the tenant. Longer tenures give both landowners and tenants more opportunities to improve soil health and realize the resulting longer-term production and profitability gains through sustainable conservation practices.

“Improving soil health can provide long-term, stable dividends for you, your family and your farming partner,” Fisher says. “Improving soil health also can decrease the effects of flooding, make food production more resilient to weather extremes, and improve the health of water and wildlife, as well,” he adds.

Fisher encourages landowners to learn more about the basics and benefits of soil health management systems and to begin the soil health discussion with their farming partner right away. “Even if you’re not a farmer or landowner, everyone has a great stake in improving the health of our soil,” he says.

For more information on improving soil health contact Kevin Allison at the Marion County SWCD office (317-786-1776 or email him at kevin-allison@iaswcd.org. Farmers can contact District Conservationist Jerod Chew at 317-745-2555 or email him at jerod.chew@in.usda.gov

Soil Health!



In a conservation garden, soils are healthy and full of life!

By mimicking nature in our gardens, we can create food webs in and above the soil that increase plant productivity and improve soil fertility. Green cover crops are grown alongside vegetables and throughout the winter to collect sunlight and energize the soil, and their continuous living roots create an environment for soil life to thrive. A commitment to minimize tillage protects the home of countless beneficial microorganisms and fungi that make and cycle nutrients to naturally fertilize healthy vegetables.

See how growers and conservation farmers are making it work on their farms through excellent online resources like notillveggies.org and NRCS Soil Health. And stay tuned for upcoming SWCD workshops to learn first-hand!

Developing a healthy, productive soil is a journey, and to achieve it, we focus on the four soil health principles in every action we take in our conservation gardens.

1. Keep the soil covered as much as possible.
2. Disturb the soil as little as possible.
3. Keep plants growing throughout the year to feed the soil.
4. Maximize diversity using crop rotation and cover crops.

Join the journey to heal our land!

SWCD Urban Soil Health Program

kevin-allison@iaswcd.org

Marionswcd.org





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SOIL AND WATER
CONSERVATION DISTRICT

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www.marionswcd.org

The Mission of the Marion County Soil & Water Conservation District is to assist Marion County land users in conserving soil, water, and related natural resources by providing technical, financial and educational services.

THANK YOU Supporting Affiliate Members!

Copper Members

Mark Kautz Beth Mason Stephanie Schuck
Ruth & Paul Hayes, in honor of Eli Bloom & George Haerle

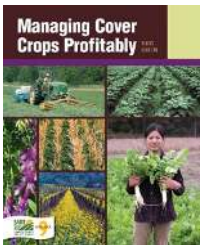
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Free Resources on Cover Crops & Soil Management



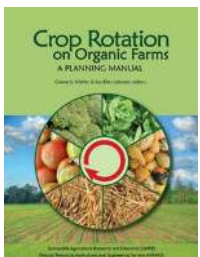
Notillveggies.org

The Weil Brassica Research Team demonstrates a radish cover crop as an effective tool for targeting early spring crops like spinach.

[Systems for Organic Vegetable Farms Webinar.](#)

North Central Sustainable Agriculture and Research (SARE)

[Free online pdfs!](#)

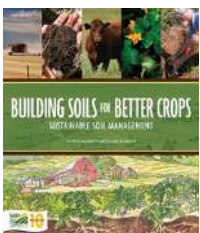


Natural Resources Conservation Service

[Explore the Science of Soil Health video series!](#)

Extension.org

Learn interesting insight on cover cropping strategies used by small farmers in vegetable production in the [Rotational No-till and Mulching](#)



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{ Fall Tree Sale }

We are planning to host a tree and shrub sale this fall to benefit conservation work in Marion County. Please watch our website later this summer for further details. Rainbarrels are available through the District all summer long. Call Marilyn at 317-786-1776 to order.