Dubois County Soil & Water Conservation District

1486 Executive Blvd. Suite A • Jasper, IN 47546
812-482-1171 x3 • www.duboisswcd.org

Fall, 2017

The Conservation Conversation

LSI Update and Advanced Soil Health Workshop

Like many farmers in Dubois County, the SWCD replanted corn into standing corn on the VUJC LSI property. This step was taken due to poor emergence after this spring's heavy rain event. The challenge is that there is a gap of nearly a month between the first planting and the replant opportunity.

In areas of the field where stands are thin, replanting is beneficial. When the plants emerge at the same time as their neighbors, they grow well together. However, there is a downside to replanting into corn that is already growing which is the younger plant is in direct competition with the corn that is already maturing. And in fact, can act like a weed robbing the original plant of much needed nutrients.

At this time, there is a good stand with both plantings; however, the ear size on the replanted corn is variable with many cobs being much smaller or not well fertilized. But even with the smaller ears of corn from the second planting, all will contribute to the overall yield.

In August, the SWCD held its second workshop of the year, inviting Jim Hoorman to return and delve deeper into topics he briefly touched on in March. The Advanced Soil Health Workshop featuring Jim Hoorman was held on Wednesday, August 16th, 2017 at the VUJC CTIM Building. Mr. Hoorman is the NRCS Soil Health Specialist for Northwest Ohio and a former Ohio State University professor.

Topics included *Home Grown Nitrogen, Nitrogen Cycle, Soil Compaction, Farming for Extreme Weather, and Building Soil Organic Matter.*

Local farmers gathered to gain in-depth understanding of how the nitrogen cycle works; how microbes in the soil create forms of plant available nitrogen and other nutrients; and why it is critical to have living roots in the soil to keep feeding the microbes that are in turn feeding our crops. During discussion times, conversation veered to other topics; such as, slugs, voles and many other issues.

Contents

River Friendly Farmers Honored

Out of 58,000 farms in the state of Indiana, two farms in Dubois County received the statewide award of River-Friendly Farmer at the Indiana State Fair on Farmers' Day August 16 in the 4-H Exhibit Hall.

Jochem Farm and McMurtrie Farm were among 49 farmers who received the River-Friendly Farmer award from the Indiana Association of Soil and Water Conservation Districts (IASWCD) for the work they do on their land to protect Indiana's natural resources.

The Dubois County Soil and Water Conservation District nominated Jochem Farm and McMurtrie Farm for the award based upon their farm management practices that protect Indiana's rivers, lakes, and streams.

Indiana Lieutenant Governor, Suzanne Crouch, along with Randy Kron, President of Indiana Farm Bureau; State Conservationist Jane Hardisty; IASWCD President Jamie Scott; and Meghan Grebner from Brownfield Ag News presented the awards to the winning farmers.

The River-Friendly Farmer Award has been presented by the IASWCD and sponsored by the 92 local Soil and Water Conservation Districts, and Indiana Farm Bureau, Inc. since 2000. This year's group of award winners brings the total number of River-Friendly Farmers in Indiana since the awards beginning to 912.

Jochem Farm produces corn, soybeans, hay, beef, cattle, and hogs. They strictly no-till and plant cover crops which has helped in building their soil structure.

The Jochem brothers, Mark and Robert, have also developed their own system of knifing in hog manure to decrease runoff. This system keeps them from having to apply any starter fertilizer or side dress. The reduction in runoff has benefited them in both water quality and economics. Hunly Creek runs near their land in the Patoka Watershed. In addition, they maintain woodland for animal habitat, selectively harvesting trees to ensure a good stand. They also believe that soil is not just soil, but it is the future and they enjoy sharing that message and their conservation practices with all who visit their farm.

McMurtrie Farm produces corn and soybeans on a rotational basis and hay and beef within the Ohio-Little Pigeon Watershed. Owner Susan Kruger no-tills, uses cover crops, dry dams, and soil sampling which contributes to a reduction in nutrient sediment runoff and a build up of soil tilth. The fully stocked 5 acre lake has also helped catch runoff from 3 smaller streams on the property. Any water leaving the property is clean and clear. Tree planting and animal habitats have also been a part of this farm. Kruger states that it is important to her to share her love of nature and conservation with her children and grandchildren just as her Grandmother McMurtrie and her parents did with her. She believes getting children involved at a young age will lead them to cherish and care for the land and know what a tremendous gift both soil and water are to our world.

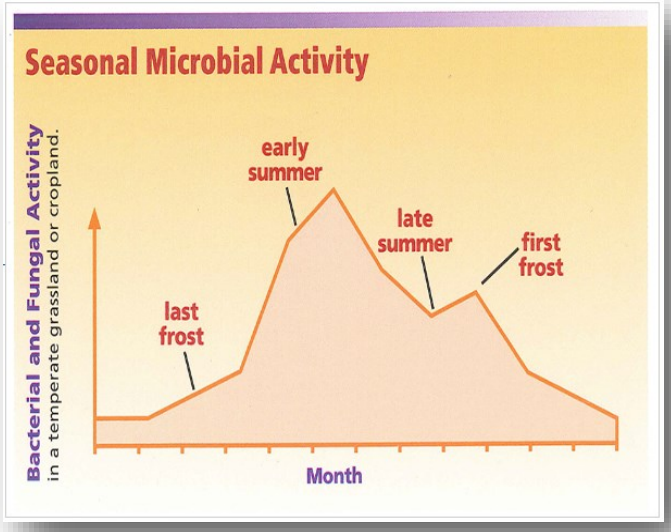
SWCD Booth Displays at 4-H Fair and the Ferdinand Folk Fest

If one were to be asked about what is found in a shovel full of soil, the answer would probably be worms, plant roots, and a few insects. That would be correct but it would be leaving out the most significant group of organisms found in soil—MICROBES!

This year the SWCD's booth at the Dubois County 4-H Fair and the Ferdinand Folk Fest had an attention getting display that people are probably still talking about today. This spring, Melissa Ruschau, Dubois County SWCD Program Technician, buried clean, men's cotton underwear briefs in the VUJC LSI project fields to see how long it took for them to decompose. Soil microorganisms require carbon to survive. Men's cotton briefs contain high amounts of carbon. This experiment evaluates soil microbiological activity and soil health status. Better, more nutrient rich soil quickens decomposition.

Without microbes like fungus, bacteria, protozoa, and nematodes in our soil, nothing would ever break down. These species (billions are found in one teaspoon of soil) break down organic matter and create nutrients for plants to feed upon. Microbes are hardworking and the foundation of life.

For more information on this fun experiment, search #Soil Your Undies.



Dubois County SWCD's display booth at the 4– H Fair in August.

Melissa Ruschau, Dubois County Program Technician, sits with the SWCD display booth at the Ferdinand Folk Fest.

Composting Workshop

On September 26th, the SWCD hosted a Composting Workshop at the Memorial Hospital H.O.P.E. Garden located on South Newton Street. Cara Bergschneider, NRCS District Conservationist from Bloomington, led the workshop. Bergschneider has many years experience planning urban gardens and growing and selling produce from her own large garden. One of the highlights of her presentation was the slake test which is seen in the above picture. Soil that doesn't have cover crops or plants to hold the soil together is easily dissolved in a container of water. But soil that is healthy and includes plant life absorbs water and holds the soil together. She also stated that the modern practice of composting is little more than speeding up and intensifying natural processes. One also realizes that no matter what you do, no matter how many little mistakes you make, you are still probably going to come up with reasonably good, usable compost. Microorganisms; such as, bacteria and fungus that are too small for us to see, digest the compost. Microorganisms need four things to grow and multiply: an energy source (carbon), a protein source (nitrogen), oxygen, and moisture. Bacteria make up 80-90% of the billions of microorganisms found in one gram of compost. After bacteria finish their work, fungi break down tough lignin and cellulose. Solid and liquid material fall into one of three categories: 1) desirable compostable stuff, 2) undesirable compostable stuff, and 3) non-biogradeable stuff. For more information contact the SWCD office at 812-482-1171, ext #3.

17th Annual Soil Judging Contest

Pictures of the 17th Annual Dubois County SWCD Soil Judging Contest illustrate the very wet conditions this year. The contest had been postponed one week due to the expected rainfall from remnants of Hurricane Irma. The newly scheduled date of the contest started out with heavy rains but the sky cleared to allow the competition to be held later in the afternoon.

This year's location was on the western edge of Dubois County on the Dennis Whitsitt farm. Mr. Whitsitt had to drain all four of the previously dug pits before the students arrived as seen in the first picture. Eight teams with a total of fifty-five students arrived with their coaches to the competition site from five different counties.

The first place winning team was Jasper FFA Gold coached by Andy Helming. Second place team was Gibson County 4-H coached by Julie Loehr. Third place team was Clay City coached by Pat Powell. First place individual winner was Alexa Hopf with Jasper FFA Gold. Second Place individual was a tie between Justin Street with Jasper FFA Gold and Joseph Loehr with Gibson County 4-H. Fourth place individual was Brent Whitesell with Clay City. Fifth place individual was Caemon Doyle with Gibson 4-H.

This year's winning team was Jasper FFA Gold coached by Andy Helming. The team consisted of Wyatt Street, Kate Stenftenagel, Justin Street, and Alexa Hopf.

Invasive Species Control

The 12th Annual Home Expo was held in March and featured 50+ exhibitors. There was a grand prize drawing with many booths offering prizes, giveaways, demonstrations, and handouts. Dubois County SWCD and ISAC partnered with this display.

World Soil Day celebrated on December 5th, 2017 is an annual celebration that is largely unknown. Soil is one of the most significant parts of our ecosystem, contributing to our food, water, and energy and plays an important part in reducing the impact of climate change. For all these reasons, the International Union of Soil Sciences (IUSS) made a resolution proposing the 5th of December be World Soil Day in order to celebrate the importance of soil as a critical component of the natural system and as a vital contributor to humanity's well-being.

The best way to celebrate is to education ourselves. Start a rain garden or implement a rain barrel or using impervious hardscapes in your landscape

Dubois County SWCD and ISAC also partnered for a day of invasive species control in April at the Dubois County Park removing autumn olive, multi-flora rose, and bush honeysuckle.

Dubois County SWCD and ISAC again partnered at the end of September for a day of invasive species control at the Dubois County Park removing autumn olive, multi-flora rose, burning bush, and callery pear, and Asian bush honeysuckle. A group of 30 interested people along with some Boy Scouts and Girl Scouts participated in the event. The picture on upper right shows Girl Scout Troup 66 members tackling an autumn olive plant.

Grazing Bites by Victor Shelton

I may have been a little hard on tall fescue last month, but Kentucky 31 endophyte infected tall fescue does have issues. Much of the tall fescue in Indiana is infected with the endophyte, a fungus that produces a toxic substance known as ergovaline. The endophyte and ergovaline are responsible for reduced palatability of tall fescue especially when it is under stress. Fescue toxicosis is responsible for elevated body temperatures, restricted blood flow to extremities and poor animal performance.

Most people think that ergovaline doesn't pose a problem in stockpiled fescue because the ergovaline appears to concentrate in seed heads and stockpiled fescue is generally vegetative. Livestock eat stockpiled fescue better after a couple of hard frosts or freezing conditions. This suggest that there is still ergovaline present in infected fescue, reducing intake until after freezing conditions. Most studies have found that ergovaline content drops fairly fast after mid-December. Sadly, as long as endophyte infected tall fescue is growing, it probably is still producing some ergovaline. I might like long, warm falls, but it can delay the ergovaline reduction. Earlier winter or cold weather tends to prompt lower levels of ergovaline. So the best time frame to utilize endophyte infected tall fescue is probably mid to late winter. Ergovaline in hay also reduces over time.

Now there is some good, improved varieties of tall fescue. Ag-Research in New Zealand isolated naturally occurring endophytes that produced alkaloids associated with insect persistence, but did not produce alkaloids associated with poor animal performance. Welcome novel endophyte friendly tall fescues. The first release was MaxQ tall fescue also called Jesup MaxQ. The novel animal friendly endophyte was inserted into the tall fescue variety Jesup. There are several available today. These endophyte friendly tall fescues provided increased average daily gains, good yields, and even persistence better than even Kentucky 31. This is a huge improvement over low and endophyte varieties that were not very persistent and were often quickly taken back over by old Kentucky 31.

If you are considering switching a dominantly endophyte infected tall fescue field to an endophyte friendly tall fescue, you need to make sure to kill out as much of the old fescue as possible. Time helps along with some good herbicides. It 's best to first start by spraying the field of tall fescue when it is actively growing which will help get a good kill. It 's hard to get all of it in one spraying and there is usually a seed bank waiting in the shadows. The ground being converted is probably needed for pasture or hay, so to buy some time to check for a successful kill and allow for any possible growth from seed plant the field to a summer annual (or winter annual if done in late summer) and utilize that annual for grazing or hay. Then, when the next planting season arrives, check for any remaining old fescue plants or new plants and apply appropriate herbicides if needed to clean up those remaining plants. Now plant the field to an endophyte friend tall fescue or a mix including it. The new fescues stockpile just as good, if not better, than Kentucky 31.

Some research also suggests that ergovaline may leach out with a lot of rainfall. There is a tie to ergovaline and nitrogen content of the plant, so that should not surprise anyone. The conclusion of the article was that since stockpiled fescue retains dry matter and quality throughout the winter, the best use of infected stockpiled fescue was during the late winter period.

There is still time to plant fall annuals for grazing this fall, winter and/or possibly next spring. Some areas in Indiana certainly could use more moisture. I feel fortunate for the moisture I have. I contribute a lot of that to maintaining good ground cover in the form of green live plants. I'll end today with a prayer for all the rancher and produce in areas tragically impacted by Hurricane Harvey. The coastal bend region and southeast Texas was historically the region that was the birth of the cattle industry in the south and was tied to those famous cattle drives to railroads in Kansas. It's a good reminder to take a moment to be thankful for what we have. Check the cows, pet the dog, kiss the spouse, hug the kids, and keep those in Texas in your thoughts.

Keep on grazing!

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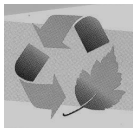

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