



# CONSERVATION CATCHALL

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## *PARTNERS IN CONSERVATION AT 2013 FARM PROGRESS SHOW*

Twenty-two organizations and agencies were represented in the Partners in Conservation Tent at the August 27 - 29, 2013 Farm Progress Show in Decatur. The weather was hot but the crowds were good and many people were exposed to the resources available for conservation assistance. The Illinois Rural Water Association sponsored a radio broadcast each of the three days of the show which allowed representatives from the various organizations to tell about their programs and the assistance they provide to those interested in caring for their natural resources.



Ciji Taylor, NRCS and Richard Breckenridge, IEPA with two of the brightly painted rain barrels.

60' roller-crimper that was designed and built by Howard Buffet to use on cover



ISWCDEA had an attractive display featuring cover crops, native grasses and a duck grab / fishing game with prizes for younger attendees.

Six brightly colored rain barrels were given away to those that put their name in for a drawing that occurred twice each day. There were lots of interesting displays and "give aways" to entice people to come into the tent and stay a while to find out what was going on. One of the big draws was a



Roger Windhorn, NRCS and Illinois Soil Classifiers Association, always had a good crowd at the soils pit. Pictured in the background is Daniel Sheehan, Sequoia Farms, explaining the roller-crimper .

crops on his Sequoia Farm operation near Decatur. The pictures here and on page 7 provide a few of the highlights of the highly successful event.



## PRESIDENT'S MESSAGE - LONNIE WILSON

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Harvest is underway and I am providing the following in place of my normal written report. Rich and I have been participating in meetings of the Nutrient Reduction Strategy Workgroup which was created by IEPA this past summer to develop strategies for reducing nutrient loading to the Mississippi and its Illinois river tributaries. The goal is to reduce nutrient loading by 45% for nitrogen and 50% for phosphorous and we don't have long to address that goal. The following news release was received on September 25th. I'm not sure USEPA will give us the time needed to develop or implement effective reduction strategies before implementing standards similar to what the agency did for Chesapeake Bay.

### **Environmentalists win dead zone round against EPA**

Monday - 9/23/2013, 8:30pm EDT  
JANET McCONNAUGHEY  
Associated Press

**NEW ORLEANS (AP)** -- Environmental advocates in states along the Mississippi River have won a round toward a long-term goal of having federal standards created to regulate farmland runoff and other pollution blamed for the oxygen-depleted "dead zone" in the Gulf of Mexico and problems in other bodies of water.

In a ruling Friday, U.S. District Judge Jay Zainey in New Orleans gave the Environmental Protection Agency six months to decide whether to set Clean Water Act standards for nitrogen and phosphorous in all U.S. waterways or explain why they're not needed. The EPA describes the nutrients on its website as "one of America's most widespread, costly and challenging environmental problems," affecting every state.

"If they step up to the plate and do the right thing, agreeing to promulgate federal standards where states have failed, the impact on waters throughout the nation could be hugely positive," said Ann Alexander, an attorney for the Natural Resources Defense Council, one of nine environmental groups including the Gulf Restoration Network, the Sierra Club and the Prairie Rivers Network.

If they do, she said Monday, one of the first areas to look at could be the 31 states of the Mississippi River basin, because the annual dead zone is "one of the clearest manifestations of the severity of the problem." Every summer, nutrients feed algae blooms at the river's mouth. Algae and the protozoa that eat them die and fall to the bottom, where their decomposition uses up oxygen. That creates an area on the sea bottom averaging nearly 5,800 square miles -- larger than the state of Connecticut -- where there is too little oxygen for aquatic life.

"More than 100,000 miles of rivers and streams, close to 2.5 million acres of lakes, reservoirs and ponds, and more than 800 square miles of bays and estuaries in the United States have poor water quality because of nitrogen and phosphorus pollution," according to EPA. "Additionally, nutrients can soak into ground water, which provides drinking water to millions of Americans."

Earlier this month, a federal judge in Virginia upheld federal and state pollution limits worked out by the EPA, six states and Washington, D.C., to improve the health of the Chesapeake Bay by more tightly regulating wastewater treatment, construction along waterways and agricultural runoff. The American Farm Bureau, one of 44 agricultural groups that asked to join EPA as plaintiffs in the Louisiana lawsuit, had challenged the regulations.

Similar issues are driving the damaging algae blooms in Lake Erie and threatening other parts of the Great Lakes, the NRDC said in a news release.

The environmental groups are also members of the Mississippi River Collaborative, which asked EPA in a 2008 petition to set standards and cleanup plans for nitrogen and phosphorus pollution of the

[\(continued on page 9\)](#)



## EXECUTIVE DIRECTOR'S NOTES - RICH NICHOLS

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September is nearly over and fall is here – officially and weather wise. This past weekend I had the pleasure of taking a drive to Kentucky. We were in no particular hurry so we wandered south along some state and county roads far from the Interstate. By taking the route we did, I saw quite a bit of southern Illinois along the way. I must admit, I was surprised by the differences in crop maturation. Corn ranged from being harvested to as green as I would expect it to look in early August most years. Beans, too, displayed a wide range of maturation. Of course the double crop beans were still quite green and short but we saw what I am fairly sure were first crop beans that appeared to be just beyond bloom stage. We also saw a few fields that had been harvested and several that appeared nearly ready for harvest. In fact, the beans, in general, appeared to be farther along than a lot of the corn. I suppose most of the differences can be attributed to rainfall patterns in the spring and early summer. I seem to recall that areas south of Springfield had more rain and stayed wet longer than the central and northern parts of the state.

I also noticed there were plenty of rills and gullies that were deep enough to make harvesting a bit rough in the more steeply sloping fields.

I saw several fields that were clean tilled and worked down like a garden. I can only hope they will be planted to wheat.

In both cases, the potential for increased soil erosion is a serious threat to the land and to its ability to contribute greater nutrient loads.

If you haven't already read Lonnie's *President's Message* on page 2, I encourage you to do so. USEPA is being forced to get serious about keeping nutrients out of our streams, lakes and rivers and soil erosion is the primary source for phosphorus in our waters. Stopping soil erosion will be the primary strategy for reducing phosphorous contributions.

Nitrates are another story altogether. Nitrogen is soluble in some of its various forms. It can leach into ground water, be carried off by runoff and can be transported directly to streams and rivers by tile flow. Nitrogen is also considered to be the primary cause of the hypoxic zone in the Gulf of Mexico. Nitrogen encourages excessive plant growth and algal blooms in the waters off the coast of Louisiana and Texas. When the excessive plants and algae die, they fall to the bottom and begin decomposing. As they decompose, they utilize large amounts of oxygen in the water leaving little for the larger ocean dwellers such as shrimp and fish. Fish generally have the option to swim out of the oxygen poor waters but bottom dwellers such as shrimp don't have that option and they die. The added dead and decaying animal material on the bottom only adds to the depletion of oxygen.

In 2012 during the drought, the Hypoxic Zone was the smallest it has been in years. However, with the flush of 2013's spring rains carrying the unused nitrogen from 2012 the zone grew to enormous size, demonstrating clearly that nitrates from crop land are a major contributor to the problem. That evidence was all several environmental groups needed to convince a judge that USEPA was not doing its job thereby forcing the imposition of standards for nutrient loading.

It is likely those standards will be put in place by this time next year. At this point it is not possible to know what the standards will be nor is it possible to know how long farmers in the Mississippi River basin will have to comply with the standards. The important thing to remember here is that the soil and water conservation districts will be involved. I imagine that workloads will increase considerably and that districts will need to set priorities for their services. The additional workload could also offer opportunities for the districts to begin imposing fees for their services. Please read carefully! I'm not advocating taking advantage of a situation that is already causing difficulties for farmers. What I am trying to say is that there will be a need to assure adequate staff to help address the issues and allow farmers to continue producing and the only way to get that right now will be through the imposition of fees for services. The state is broke and will not be a reliable source of funding for the SWCDs in the foreseeable future. Fees appear to be the only solution and section 22.09 (70 ILCS 405/22.09) provides the authority for the SWCDs to charge a fee for their services.

I encourage each SWCD to take a long hard look at your current programs and to think about what might happen when producers in your district are suddenly required to reduce their nitrogen use by 45%. What can you as a district do to help reduce nitrogen contribution levels by 45% but still allow the producer to apply sufficient nitrogen to continue growing a crop that will provide an income sufficient to keep the producer in business?

I believe that thought process, if carried out now, will position the SWCDs to be ready and able to provide the necessary assistance when it is needed.

The time is right. The tools are available. Now is the time to act!

*Rich*



## PROGRAM COORDINATOR'S PAGE - KELLY THOMPSON

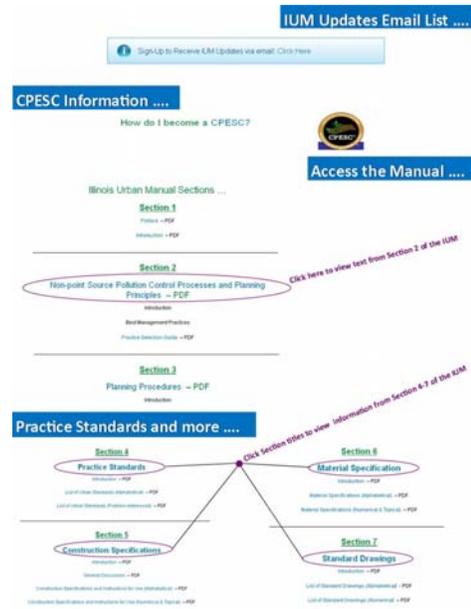
[kelly.thompson@aiswcd.org](mailto:kelly.thompson@aiswcd.org)

I'm excited to share with you the NEW Illinois Urban Manual website! As you may know, AISWCD rolled out its new website during Summer Conference in July of this year, but I want to share with you some great features of the IUM website that you may not already know.

Below are snapshots of what the IUM website has to offer...

- Web address is [www.aiswcd.org/ium/](http://www.aiswcd.org/ium/)
- Homepage is easy to navigate
- News and Notices are featured on the IUM homepage
- Sign-up for IUM email updates
- Find information about becoming a CPESC
- Access the manual sections by clicking on the headings
- Access Section 4-7 by clicking on the section heading

All sections can be viewed via PDF files. If you need additional file types email [Kelly.thompson@aiswcd.org](mailto:Kelly.thompson@aiswcd.org). Also available is the full manual (PDF version) minus sections 4-7, which need to be downloaded separately. Stay tuned for a complete downloadable PDF version of the Illinois Urban Manual as well as the IUM Field Manual.



We hope you find the new IUM website easy to use and navigate! As always, if you have any questions please email me or call the AISWCD office for assistance.

Have a wonderful Fall Season!

*Kelly Thompson, Program Coordinator*





## ADMINISTRATIVE ASSISTANT'S UPDATE - *SHERRY FINN*

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### SOIL HEALTH

#### Basics & Benefits

Managing for soil health is one of the most effective ways for farmers to increase crop productivity and profitability while improving the environment. Positive results are often realized within the first year, and last well into the future.

#### Soil Health

Soil is made up of air, water, decayed plant residue, organic matter from living and dead organisms, and minerals, such as sand, silt and clay. Increasing soil organic matter typically improves soil health since organic matter affects several critical soil functions. Healthy soils are also porous, which allows air and water to move freely through them. This balance ensures a suitable habitat for the myriad of soil organisms that support growing plants.

It's not difficult to improve soil health. Here's how: till the soil as little as possible; grow as many different species of plants as possible through rotations and a diverse mixture of cover crops; keep living plants in the soil as long as possible with crops and cover crops; and keep the soil surface covered with residue year round.

#### Soil Health Benefits

Farmers who manage their land in ways that improve and sustain soil health benefit from optimized inputs, sustainable outputs and increased resiliency. Healthy soils benefit all producers – managers of large, row crop operations to people with small, organic vegetable gardens. Healthy soils provide financial benefits for farmers, ranchers and gardeners, and environmental benefits that affect everyone.

#### Healthy soils lead to:

Increased Production – Healthy soils typically have more organic matter and soil organisms which improve soil structure, aeration, water retention, drainage and nutrient availability. Organic matter holds more nutrients in the soil until the plants need them.

Increased Profits – Healthy soils may require fewer passes over fields because they are only minimally tilled and they aren't over-reliant upon excessive nutrient inputs to grow crops. Healthy soils can increase farmers' profit margins by reducing labor and expenses for fuel, and optimizing inputs.

Natural Resource Protection – Healthy soils hold more available water. The soil's water-holding capacity reduces runoff that can cause flooding, and increases the availability of water to plants during droughts. Good infiltration and less need for fertilizers and pesticides keep nutrients and sediment from loading into lakes, rivers, and streams. Groundwater is also protected because there is less leaching from healthy soils. Additionally, fewer trips across fields with farm machinery mean fewer emissions and better air quality.

#### Soil Health Management Systems

Implementing Soil Health Management Systems can lead to increased organic matter, more soil organisms, reduced soil compaction and improved nutrient storage and cycling. As an added bonus, fully functioning, healthy soils absorb and retain more water, making them less susceptible to runoff and erosion. This means more water will be available for crops when they need it. Soil Health Management Systems allow farmers to improve profitability because they spend less on fuel and energy while benefiting from the higher crop yields resulting from improved soil conditions.

Contact your local NRCS office to learn more about Soil Health Management Systems and the technical and financial assistance available to help "Unlock the Secrets in the Soil."

#### Soil Health Key Points

##### What's critical about soil health now?

1. World population is projected to increase from 7 billion in 2013 to more than 9 billion in 2050. To sustain this level of growth, food production will need to rise by 70 percent.
2. Between 1982–2007, 14 million acres of prime farmland in the U.S. were lost to development.
3. Improving soil health is key to long-term, sustainable agricultural production.

##### Soil health matters because:

1. Healthy soils are high-performing, productive soils.
2. Healthy soils reduce production costs—and improve profits.
3. Healthy soils protect natural resources on and off the farm.
4. Franklin Roosevelt's statement, "The nation that destroys its soil destroys itself," is as true today as it was 75 years ago.
5. Healthy soils can reduce nutrient loading and sediment runoff, increase efficiencies, and sustain wildlife habitat.

##### What are the benefits of healthy soil?

1. Healthy soil holds more water (by binding it to organic matter), and loses less water to runoff and evaporation.
2. Organic matter builds as tillage declines and plants and residue cover the soil. Organic matter holds 18-20 times its weight in water and recycles nutrients for plants to use.
3. One percent of organic matter in the top six inches of soil would hold approximately 27,000 gallons of water per acre!
4. Most farmers can increase their soil organic matter in three to 10 years if they are motivated about adopting conservation practices to achieve this goal.

##### How to begin your path to Healthy Soils:

1. Keep it covered.
2. Do not disturb.
3. Use cover crops and rotation to feed your soil.
4. Develop a soil health management plan with the help of NRCS.

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## Office Assistant's Information - Gina Bean

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Happy fall to everyone!

Fall is my favorite season and I'm so glad its here. I will admit we had a decently mild summer, at least here in Springfield we did. There were even a couple of mornings I had to put the heat on in the car for a few minutes to take the crisp coldness away. It was a nice change to be wearing a sweatshirt a couple of mornings at camp this summer instead of sticking to everything because of the humidity.

We write articles for the "Conservation Catchall" and I feel this month I would like to talk about a company we use daily in the office that is doing their part to help conserve the Earth's resources. I stumbled across a CNN Money article where they highlighted 10 Green Giants. One of those giants was Hewlett-Packard or as many of us call them, HP. The laptop I use every day at work and the ink we use are HP products.

They make it almost mindless to recycle their ink products. If you go to [www.hp.com/recycle](http://www.hp.com/recycle) you can order envelopes, which they pay the postage for, to turn in your empty small ink cartridges. The larger ones for high capacity printers come with a sticker in the box that you fill out and stick on and ship. Again, they cover the postage on the larger ones as well.

To read the article on CNN Money visit [http://money.cnn.com/galleries/2007/fortune/0703/gallery.green\\_giants.fortune/10.html](http://money.cnn.com/galleries/2007/fortune/0703/gallery.green_giants.fortune/10.html)

Josh Seehorn is still trekking his way across the country.

For more information on Josh: <http://outdoorjosh.com/>

or

"Like" his Facebook page

[https://www.facebook.com/pages/Josh-Seehorn/253473538111392?ref=stream&hc\\_location=stream](https://www.facebook.com/pages/Josh-Seehorn/253473538111392?ref=stream&hc_location=stream)

Thank you to everyone that helped out at the 2013 Summer Conference. I hope it was a great informative time for everyone that was able to attend.

Until next month,

Gina Bean

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## ADMINISTRATIVE ASSISTANT'S UPDATE

(continued from page 5)

Follow four basic soil health principles to improve soil health and sustainability:

1. Use plant diversity to increase diversity in the soil.
2. Manage soils more by disturbing them less.
3. Keep plants growing throughout the year to feed the soil.
4. Keep the soil covered as much as possible.

What is a Soil Health Management Plan?

1. It's a roadmap to soil health.
2. It outlines a system of practices needed to enhance crop production and soil function, and improve or sustain water quality, air quality, energy efficiency and wildlife habitat.  
Some of the recommended conservation practices include: Conservation Crop Rotation, Cover Crops, No Till, Mulching, Nutrient Management, and Pest Management.
3. It provides environmental, economic, health, and societal benefits.
4. It saves energy by using less fuel for tillage, and maximizes nutrient cycling.
5. It saves water and increases drought tolerance by increasing infiltration and water holding capacity as soil organic matter increases.
6. It reduces disease and pest problems.
7. It improves income sustainability for farms and ranches.
8. It improves plant health.

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**ISWCDEA CORNER - SHERRY HUFFSTUTLER**  
**ISWCDEA REGION ONE REPRESENTATIVE**

website: <http://www.il.ncdea.org>

Greetings! The ISWCDEA Farm Progress Show booth was a great experience!!!! Those of you who were able to attend the show would agree with me that the booth was excellent. A big "THANKS" go the ISWCDEA Farm Progress Show committee consisting of: Thad Eshleman, Renee Weitekamp and Sondra Baker. Through their efforts the attention-grabbing display of cover crop and prairie plants around the fishing pond for children brought many people to the booth. The volunteers were able to visit with people from literally all over the world about cover crops and other conservation issues. It was also a delight to see children (of all ages) fish in the fishing pond.



**ISWCDEA Booth**  
**Photos**



I would encourage all employees to volunteer your service by working at this event at the next Farm Progress Show. It is truly a great experience!!!!

The ISWCDEA board is in the process of planning the Winter Training session. This is your training session so if you have any ideas or topics that would better enable you in your job performance please let your ISWCDEA representative know.

Until Next Time!!

Sherry



## FIRST STEP TO REDUCE PLANT NEED FOR NITROGEN FERTILIZER UNCOVERED

Nitrogen fertilizer costs U.S. farmers approximately \$8 billion each year, and excess fertilizer can find its way into rivers and streams, damaging the delicate water systems. Now, a discovery by a team of University of Missouri researchers could be the first step toward helping crops use less nitrogen, benefitting both farmers' bottom lines and the environment. The journal *Science* published the research this month.

Gary Stacey, an investigator in the MU Bond Life Sciences Center and professor of plant sciences in the College of Agriculture, Food and Natural Resources, found that crops, such as corn, are "confused" when confronted with an invasive, but beneficial, bacteria known as rhizobia bacteria. When the bacteria interact correctly with a crop, the bacteria receive some food from the plant and, simultaneously, produce nitrogen that most plants need. In his study, Stacey found that many other crops recognize the bacteria, but do not attempt to interact closely with them.

"The problem is that corn, tomatoes and other crops have a different response and don't support an intimate interaction with the rhizobia, thus making farmers apply larger amounts of nitrogen than might otherwise be necessary," Stacey said. "Scientists have known about this beneficial relationship since 1888, but it only exists in legume crops, like soybeans and alfalfa. We're working to transfer this trait to other plants like corn, wheat or rice, which we believe is possible since these other plants recognize the bacteria. It's a good first step."

When legumes like soybeans sense a signal from the bacteria, they create nodules where the bacteria gather and produce atmospheric nitrogen that the plants can then use to stimulate their growth. This reaction doesn't happen in other plants.

"There's this back and forth battle between a plant and a pathogen," said Yan Liang, a co-author of the study and post-doctoral fellow at MU. "Rhizobia eventually developed a chemical to inhibit the defense response in legumes and make those plants recognize it as a friend. Meanwhile, corn, tomatoes and other crops are still trying to defend themselves against this bacteria."

In the study, Stacey and Liang treated corn, soybeans, tomatoes and other plants to see how they responded when exposed to the chemical signal from the rhizobia bacteria. They found that the plants did receive the signal and, like legumes, inhibited the normal plant immune system. However, soybeans, corn and these other plants don't complete the extra step of forming nodules to allow the bacteria to thrive.

"The important finding was that these other plants didn't just ignore the rhizobia bacteria," Stacey said. "They recognized it, but just activated a different mechanism. Our next step is to determine how we can make the plants understand that this is a beneficial relationship and get them to activate a different mechanism that will produce the nodules that attract the bacteria instead of trying to fight them."

The study was funded by a grant from the U.S. Department of Energy. For more information about this research, please visit: <http://decodingscience.missouri.edu/2013/09/the-secret-of-the-legume>.

The above story is based on [materials](#) provided by [University of Missouri-Columbia](#)



## PRESIDENT'S MESSAGE

(continued from page 2)

river.

An attorney for the agricultural groups, from the U.S. Poultry & Egg Association, the National Corn Growers Association and the National Pork Producers Council to farm bureaus in 15 states from Louisiana to Wyoming, said he would ask his clients if they wanted to comment.

"We're reviewing the ruling. We have no further comment at this time," U.S. Department of Justice attorney Wyn Hornbuckle wrote in an email.

The department argued for EPA that setting such rules would be unnecessarily complex, would take too many people and too much time, and that the agency could more effectively fight water pollution by working with states to reduce such pollution from fertilizer, sewage and storm runoff.

States are indeed working with the EPA and each other on the problem, said Garret Graves, coastal protection chief for Louisiana, one of 12 states that joined the EPA as defendants. "The Hypoxia Task Force is meeting this week in Minneapolis to advance nutrient management strategies on the entire Mississippi River basin," he said.

He said Iowa released its plan about a year ago. "We're working in that larger venue to make sure that all the state efforts are complementary," Graves said.

The U.S. Supreme Court's 2007 ruling in a lawsuit about greenhouse gases and car emissions also requires EPA to investigate whether federal water pollution standards are needed, Zainey ruled Friday.

He refused to rule that such standards should be based only on science, noting that the Clean Water Act was designed to give the states the first crack at setting water quality standards, letting EPA step in "only when the states demonstrate that they either cannot or will not comply."

"Plaintiffs contend that most states to date have done little or nothing to meaningfully control the levels of nitrogen and phosphorous that pollute their waters, and that they have even less political will to protect downstream waters," he wrote.

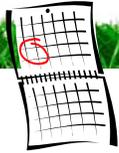
Alexander said the federal government has known at least since the 1990s that the nutrients are a major problem. She said EPA warned states in 1998 that it would have to act if states didn't set their own standards within three years. "They extended that deadline and then ultimately blew through it," Alexander said.

Reducing nitrogen by 45% and phosphorous by 50% will be a very difficult task and will require full use of all of the tools we have at our disposal. Cover crops, saturated buffers, drainage tile management systems, field and stream buffers, split application of nitrogen, nutrient management plans, soil conservation practices - both mechanical and cultural, prescription application of nutrients and many others will need to be implemented on every acre of farm land to reduce nutrient contributions AND produce a crop of sufficient yield to keep farming profitable.

Soil and water conservation districts just moved up several rungs on the ladder. Districts are the local entity that can work with the agricultural sector to help meet standards and maintain a healthy agriculture.

Districts were created to meet a national crisis. The imposition of nutrient standards on agriculture is no less challenging than the Dust Bowl. We have proved once that we are up to the task, I am confident we can do it again!





## MARK YOUR CALENDAR!

- **Columbus Day** - October 14, Holiday, Office Closed
- **Set Your Clocks Back** - Sunday November 3, 2013
- **Veteran's Day** - November 11, Holiday, Office Closed
- **Thanksgiving** - November 28 & 29, Holiday, Office Closed

### 2013—2014 QUARTERLY BOARD MEETING DATES

- **December 2013 Quarterly Board Meeting** - December 9th & 10th - Northfield Inn - Springfield, IL
- **March 2014 Quarterly Board Meeting** - March 11, Northfield Inn - Springfield, IL - Executive Committee meeting March 10, IDOA
- **June 2014 Quarterly Board Meeting** - June 9th & 10th - Northfield Inn - Springfield, IL

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## ADMINISTRATIVE ASSISTANT'S UPDATE

(continued from page 6)

### Do not disturb

Tillage can destroy soil organic matter and structure along with the habitat that soil organisms need. Tillage, especially during warmer months, reduces water infiltration, increases runoff and can make the soil less productive. Tillage disrupts the soil's natural biological cycles, damages the structure of the soil, and makes soil more susceptible to erosion.

Benefits of Reduced-Till/No-Till

**Aiding in Plant Growth** – Soils managed with reduced/no-till for several years contain more organic matter and moisture for plant use. Healthy soils cycle crop nutrients, support root growth, absorb water and sequester carbon more efficiently.

**Reducing Soil Erosion** – Soil that is covered year-round with crops, crop residue, grass or cover crops is much less susceptible to erosion from wind and water. For cropping systems, practices like no-till keep soil undisturbed from harvest to planting.

**Saving Money** – Farmers can save money on fuel and labor by decreasing tillage. Improving nutrient cycling allows farmers to potentially reduce the amount of supplemental nutrients required to maintain yields, further reducing input costs.

**Providing Wildlife Habitat** – Crop residue, grass and cover crops provide food and escape for wildlife.

### Production Inputs

Soils can be disturbed if inputs are not applied properly, potentially disrupting the delicate relationship between plants and soil organisms. Soil Health Management Systems help minimize that potential disturbance, while maximizing nutrient cycling, which can lead to greater profitability for producers.

### Livestock Grazing

Improperly managed grazing can disturb the soil. There are several ways to graze livestock to reduce environmental impacts. For example, implementing a rotational grazing system instead of allowing livestock to continuously graze pasture allows pasture plants to rest and regrow. Soil Health Management Systems

Implementing Soil Health Management Systems can lead to increased organic matter, more soil organisms, reduced soil compaction and improved nutrient storage and cycling. As an added bonus, fully functioning, healthy soils absorb and retain more water, making them less susceptible to runoff and erosion. This means more water will be available for crops when they need it.

Soil Health Management Systems allow farmers to enjoy profits over time because they spend less on fuel and energy while benefiting from the higher crop yields resulting from improved soil conditions. Healthy soils also provide a buffer for precipitation extremes (too wet or too dry).

Contact your local NRCS office to learn more about Soil Health Management Systems and the technical and financial assistance available to help "Unlock the Secrets in the Soil."

*Sherry*

**AISWCD Mission:** *To represent and empower Illinois' SWCDs*

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