

Conservation Notes

USDA - Natural Resources Conservation Service - Michigan



Spring 2012

State Conservationist	2
Center for Excellence Field Day	3
USDA 150th Proclamation	4
Wind Blown Phosphorus	5
Saginaw CD Fishing Day	6
Berrien County Farmers Honored	6
High Tunnel Tour	7
Ag Expo	8
In Brief	9
Event Calendar	10

Conservation Never Stops



Monroe County farmer Doug Darling will install a filter strip along a county drain on new farmland his family purchased. He has applied for financial assistance available through the NRCS Western Lake Erie Basin Initiative.

A lot has changed since the Darling family started farming in 1833. Michigan became a state and large cities cropped up not far away. Fortunately Doug Darling and his father Elgin are not afraid of change.

“We’ve paid our tuition, we’re not afraid to try new things,” said Doug Darling.

The Darlings farm about 1,500 acres of land near Willis, in Monroe County, where they grow row crops including corn, soybeans and wheat. The farm is adjacent to Stony Creek, which empties into Lake Erie, so the conservation

choices they’ve made also benefit the Great Lakes.

Conservation practices like no-till and nutrient management help improve water quality but also make economic sense for Darling. No-till is environmentally friendly, but more importantly it is more profitable, said Darling. Doug and Elgin Darling first experimented with no-till by planting three acres of no-till corn in 1981.

“We were being chicken,” said Elgin Darling, of their tentative step into no-till.

-continued on page 3-



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Protecting Great Lakes a Priority

As Michigan residents we are blessed to live in a state surrounded by four of the largest fresh water lakes in the world. Our state benefits from this resource in many ways.

In March, Agriculture Secretary Tom Vilsack announced the availability of \$2 million in financial assistance to protect water quality in the Western Lake Erie Basin. Secretary Vilsack made this announcement at the Cabela's outdoors store in Dundee. The location of the event showed how important the Great Lakes, and the water quality in the Great Lakes, are to Michigan's economy.

Stores like Cabela's as well as resorts, bait shops, restaurants and scores of other businesses benefit from the recreational opportunities provided by the Great Lakes. Many communities in Michigan get their drinking water directly from the Great Lakes.



Aerial photo of western Lake Erie showing algae blooms along the Ohio and Michigan shoreline.

- photo provided by National Oceanic and Atmospheric Administration

Non-point source pollution from farmland, specifically phosphorus, is one of the contributors to algal blooms which harm aquatic life and diminish water quality.

Protecting this resource is the responsibility of everyone, including Michigan's farmers. NRCS is helping by providing farmers with technical and financial assistance. In addition to the Western Lake Erie Basin Initiative, funding from the Great Lakes Restoration Initiative and National Water Quality Initiative are also targeted to reduce phosphorus loss from agricultural land. Practices like cover crops, filter strips, conservation tillage, buffers and windbreaks can be effective in limiting the amount of phosphorus and other nutrients reaching our lakes and rivers.



NRCS Michigan State Conservationist Garry Lee

Agriculture is only one contributor of pollution to the Great Lakes. However, it is one source that can be reduced using proven conservation methods.

This year marks 150 years since the creation of the U.S. Department of Agriculture. On May 15, 1862, President Abraham Lincoln signed legislation to create the department. Included in this newsletter is President Barack Obama's official proclamation recognizing the 150th anniversary of the creation of the USDA. The 150th anniversary provides an opportunity to look back at the past accomplishments of the USDA from restoring the desolation of the Dust Bowl to helping to provide food to the underprivileged.

Center for Excellence Field Day Set for August 15

The Lenawee Conservation District Center for Excellence is holding its annual field day on Aug. 15.

Field day features presentations from experts in the private, academic and public sectors about the latest advances in conservation and agriculture.

Registration begins at 8:15 a.m. at Bakerlads Farm in Clayton followed by morning educational sessions. The event moves to the Raymond & Stutzman Farm for lunch and afternoon sessions.

Some of the topics included in the educational sessions are soil health, drainage water management, soybean population studies, comparisons of tillage methods and cover crop varieties. Dr. Fred Below from the University of



Illinois Department of Crop Sciences is the luncheon speaker.

There is no cost to attend the event and lunch is provided. For more information call the Lenawee Conservation District at 517/ 263-7400 Ext. 5 or visit the Center for Excellence Web page.

The purpose of the Centers for Excellence is to research, develop and refine viable conservation tillage systems that can be adopted at the local level. Their goal is to demonstrate how to increase productivity while conserving resources.

Farm-size equipment is used on large plots to research different conservation tillage practices. Field work and data collection is independently performed by local cooperators.

- continued from page 1 -

Western Lake Erie Basin Initiative

Today, the Darlings use no-till on almost all of the land they farm, without sacrificing yields. They have gotten away from broadcasting fertilizer, instead they side dress after the crops emerge. Applying fertilizer only where it is needed along with soil testing helps Darling make the most of every dollar he spends on chemicals.

Some other conservation practices they utilize are cover crops and filter strips. With all of the conservation practices they have implemented, the Darlings were able to enroll their land into the NRCS Conservation Stewardship Program and are also certified through the Michigan Agriculture Environmental Assurance Program. Even with all of these accomplishments, Darling recognizes that agriculture and conservation is an ongoing effort.

This spring, Darling applied for USDA funds available through a conservation initiative for the Western Lake Erie Basin. The Darlings applied for funds to install a filter strip along a county drain. The filter strip will buffer cropland on some land the family recently purchased. They are also looking into enrolling some

frequently-flooded cropland into the Conservation Reserve Program.

Darling credits NRCS with encouraging farmers to incorporate new conservation practices. The Conservation Stewardship Program for example pays Darling for conservation practices he has already implemented, some without USDA assistance, like no-till. The program also provides financial incentives for adding additional conservation practices beyond what he is already doing.

While no-till, nutrient management and other innovations have helped both his land and his income, not every new innovation has worked out. In the 1990s he experimented with a new device that monitored nitrogen levels during application and adjusted application rates. The device was good in theory it was not in practice, Darling said. It could not stand up to wear and tear in the field and ended up on a shelf.

“Sometimes you have to be the guinea pig.”

By the President of the United States A Proclamation

On May 15, 1862, President Abraham Lincoln signed legislation to establish the United States Department of Agriculture (USDA) and codified a commitment to the health of our people and our land. One hundred and fifty years later, USDA continues to realize that vision of service by applying sound public policy and science to an evolving food and agriculture system.

The USDA has stood shoulder-to-shoulder with the American people for generations. During the Great Depression, the Department helped bring an end to the Dust Bowl by promoting soil conservation. Through two World Wars, the Victory Garden Program fed troops and families around the world. The USDA worked to bring electric power to rural communities, establish the Supplemental Nutrition Assistance and School Lunch Programs, implement our Nation's food safety regulations, and protect our forests and private lands. For one-and-a-half centuries, USDA has empowered communities across our country and helped ensure we leave our children a future rich with promise and possibility.

Today, USDA continues to serve the public interest by providing leadership on agriculture, natural resources, safe and nutritious food, research, and a broad spectrum of related issues. With partners across the public sector and throughout industry, USDA is working to develop and expand markets for agricultural products, grow our businesses and our economy, and protect the quality of our food supply and our environment. As part of the White House Rural Council, the Department is striving to expand opportunity for millions of families by promoting job growth and investing in infrastructure that will drive progress in the 21st century. Through the Feed the Future initiative, USDA is supporting America's commitment to combat hunger and improve food security worldwide. And with the America's Great Outdoors initiative, USDA is supporting community-based conservation initiatives that will preserve our natural heritage for generations

to come.

As we commemorate this historic milestone, we pay tribute to the men and women of USDA, past and present, who have faithfully served our Nation for 150 years. For their commitment, our fields grow richer, our abundance grows greater, and our country stands stronger.

NOW, THEREFORE, I, BARACK OBAMA, President of the United States of America, by virtue of the authority vested in me by the Constitution and the laws of the United States, do hereby proclaim May 15, 2012, as the 150th Anniversary of the United States Department of Agriculture. I call upon all Americans to observe this day with appropriate programs, ceremonies, and activities that honor the United States Department of Agriculture for its lasting contributions to the welfare of our Nation.

IN WITNESS WHEREOF, I have hereunto set my hand this fourteenth day of May, in the year of our Lord two thousand twelve, and of the Independence of the United States of America the two hundred and thirty-sixth.

BARACK OBAMA



Phosphorus is Blowing in the Wind

Perhaps the most dramatic finding in recent wind erosion studies in the Saginaw Bay watershed was that windblown soil contained seven times more phosphorus than the field it originated from.

“We didn’t really expect to see that, but the numbers popped out,” said NRCS State Agronomist Jerry Grigar.

Although the results are preliminary, they demonstrate the contribution of wind erosion on phosphorus loss moving from farmland to county drains, lakes and rivers. The loading of phosphorus to surface water, including the Great Lakes, is blamed for creating algal blooms that harm aquatic life and diminish water quality. Fortunately, calculations show that phosphorus loss from wind erosion can be drastically reduced by conservation tillage and cover crops in the corn, sugar beet and dry bean rotation.

The wind erosion samples collected in Huron County in early 2012 support findings from an earlier study in the Saginaw Bay watershed that found elevated levels of phosphorus in wind born sediment samples. The analysis was conducted by NRCS and Michigan State University Extension and published in the NRCS-Michigan electronic field office technical guide in March 2012.

Wind erosion is a resource concern in the Saginaw Bay region due to the flat terrain and wide, unsheltered, fall plowed areas, sometimes exceeding 800 meters after the removal of fence rows. Due to the lack of wind barriers, county drains collect much of the wind erosion as saltation and surface creep that is high in phosphorus content. Phosphorus soil testing in 19 counties in the Saginaw Bay watershed showed that fields without cover crops or other conservation practices lost an estimated average of 7.2 pounds of phosphorus per acre annually due to wind erosion.

The Huron County fields studied in early 2012,



Samples of wind blown sediment like in this county drain were found to contain seven times as much phosphorus as soil in the surrounding fields.

had low phosphorus levels, said Grigar. However, samples of wind erosion from the fields collected by the Huron Conservation District staff contained a much higher level of phosphorus. Grigar is not sure why the windblown sediment had higher levels of phosphorus than the fields they originated from. Other studies have found elevated phosphorus in windblown sediment but not as dramatically as the Michigan studies. More study is needed to explain the high levels of phosphorus, Grigar said.

“Perhaps the wind is sorting the soil particles with high levels of phosphorus via saltation and surface creep rather than suspension, we just don’t know.”

What is known is that controlling wind erosion is vital to keeping phosphorus from reaching surface water. It is also known that cover crops and crop rotations can dramatically reduce soil and phosphorus loss caused by wind erosion. A 1990s study in Huron County found that conservation tillage reduced soil loss from wind erosion by 50 percent.

Saginaw CD Fishing Day Attracts Kids

Over 630 children participated in “Get a Kid Hooked on Fishing Day” on April 13. The free fishing day was sponsored by the Saginaw Conservation District.

About 1,200, 12 to 19-inch brook trout were stocked in a privately owned pond in Freeland for the event. Over 75 local volunteers, organizations and businesses supported the event.

Volunteers transported the fish from hatchery tankers to the pond. The Chesaning Conservation Club prepared hot dogs and served lunch to all of the kids and their parents. The Michigan Department of Natural Resources and Scientific Anglers of Midland provided instruction on fishing and identifying fish.

Conservation district employees used games to teach about water quality. Other sponsored activities included face painting, wildlife displays



Over 630 children packed a farm pond near Freeland in Saginaw County for a free fishing day sponsored by the conservation district.

- photo provided by the Saginaw Conservation District and environmental education. The event was featured on the Michigan Outdoors television program.

Michigan Family Farm Conference Honors Studiers

Julia and Michael Studier were honored at the Michigan Family Farm Conference in January with the conference’s Stewardship Award.

The award was given in recognition of the Studiers’ conservation efforts on their farm near Sodus in Berrien County. The Studiers raise fruits and vegetables on their 15 acre farm.

The couple has utilized NRCS programs including pest and nutrient management, windbreaks and cover crops to protect the natural resources on their land. The Studiers also had their farm environmentally verified through the Michigan Agriculture Environmental Assurance Program in both farmstead and cropping systems.

The Michigan Family Farm Conference is held annually and is sponsored by a partnership of organizations including NRCS. January’s conference was the ninth annual event which targets small-scale producers.



Julia and Michael Studier were honored by the Michigan Family Farm Conference as their Stewardship Award winner. The Studiers farm in Berrien County.

- photo provided by the Berrien Conservation District

High Tunnel Producer Shares Tips

submitted by NRCS Area 2 staff

"Who's hungry?" asked Ivan Witt as he led a crowd of friendly strangers into his hoop house. "Planted last October," he added and invited them to enjoy some fresh spinach.

The visitors eagerly obliged, picking and sampling the perfectly ripe, sweet roughage blanketing the rows. Over 20 people descended upon the Witt farm on an unseasonably warm March morning to tour the property and learn the rewards and challenges of managing seasonal high tunnels, commonly known as hoop houses.

"The hoop house is like a woodstove," Witt cautions, "you've got to keep your eye on things and maintain them; you can't just ignore everything after planting and go on vacation."

Located just north of Gaylord, Witt's property is home to three seasonal high tunnels, the first of which was funded through the Environmental Quality Incentives Program. Among the visitors were several local farmers who just learned they were awarded 2012 EQIP contracts for seasonal high tunnels. Witt's hoop house tour provided a unique educational opportunity for them.

"You have to be able to adapt and keep learning about farming," said Perry Smeltzer, district conservationist for Cheboygan and Presque Isle counties. "The learning curve is going to skyrocket soon. If you educate yourself and build strong networks with other farmers, you've given yourself the best possibility for success."

Smeltzer, a 25-year NRCS veteran, assembled the tour group that included staff from area conservation districts and NRCS as well as local landowners.

"You can spend all sorts of money on seasonal high tunnel projects, but you don't have to," said Witt.

He pointed out that electricity is not essential for hoop houses, unless fancy lights or fans are desired. Passive ventilation is free and works just



Otsego County farmer Ivan Witt, far left, shows the irrigation system in his seasonal high tunnel during a March farm tour.

as well to cool the air temps and reduce humidity. Witt compared drop down side-wall ventilation with roll up varieties. In his experience, he found drop down styles superior for keeping the ground warm and don't seem to shock young seedlings with a blast of cold air as roll up side walls tend to do. Keeping a hoop house cool offers more of a challenge than warming it up, Witt added.

Proximity to fresh water is essential and aids in the determination of site selection and placement of the hoop house. Witt used examples of various drip irrigation for comparison. T-Tape is cheap at about two cents a foot and they are easy to assemble. At the end of the season, however, the tape cannot be re-rolled in the original form in which it arrived, so often it remains stretched out. T-tape also tends to kink creating weaknesses and it expands with exposure to the sun, so anchors are needed to keep the hose in place. A drip tube is more costly, but much stronger (can be run over with equipment and not break or tear), it is also easier to handle and lasts forever, said Witt.

- continued on page 8 -

Ag Expo Set for July 17-19

Michigan State University's annual Ag Expo event will kick off at 9 a.m. on July 17 in East Lansing. NRCS will host a booth at the event providing program and conservation information to visitors.

Ag Expo hours are 9 a.m. to 5 p.m. on July 17 and 18 and from 9 a.m. to 3 p.m. on its final day, July 19. The event includes educational opportunities and demonstrations on topics from nearly

MICHIGAN STATE
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every area of food, fiber, and fuel production. The show ground hosts over 250 commercial exhibitors each year, showcasing products and services that range from machinery, livestock handling equipment, and nutrition supplies to toy tractors and insurance options.

For more information about Ag Expo, including driving directions, visit; www.agexpo.msu.edu.

- continued from page 7 -

High Tunnel Tour

While access to fresh water is considered, placing a hoop house on level, high-dollar real estate is a subsequent objective. This approach will help ensure the best soil for optimum results. It is also important to orient the hoop house along an east-west axis, which increases the ability to capture solar radiation, especially if plans involve growing during low light periods throughout the winter months. This orientation strategy also provides needed ventilation supplied naturally by predominant westerly winds.

Considering the region's seasonal snow fall, the gothic-style structures work best in Northern climates to help shed snowpack.

Witt advised against purchasing commonly abundant plastic covers (film) that lack UV resistance. Double polyethylene is stronger than single layer film and doesn't flap in the wind as single layers do. Double poly also insulates best during the winter months. For colder climates, interior hoop house row covers, also known as 'light fabric barriers' can be placed over rows, which keeps temperatures warmer and reduces insect damage. Carefully draping the fabric over #9 wires or ½ inch conduit keeps the fabric from touching, and inevitably freezing to, the plants.

Witt's tomato plants performed much better inside his hoop house, production was nearly 40

percent higher compared to plants grown outdoors.

As an organic producer, Witt is against using treated lumber around the sides of the hoop house. Witt buries the plastic sides of his hoop house 12-24 inches below the soil instead of using baseboards. For pest control, Witt "lives with Aphids" but alternates soap and salt treatments to help combat them. Chickweed, which favors cool season growing, is a problem for Witt.

When asked what he might have done differently, Witt doesn't pause to answer.

"I would have opted for the paraffin wax ventilation system, it's a bit more maintenance free."

The system uses automatic vent operators on the roof and base vents of greenhouses and requires no electricity. The vent operator contains paraffin (wax) that expands when the temperature reaches about 65 F. As it cools and the paraffin contracts, the operator's springs draw each vent closed. It is adjustable within approximately 5 F and easily detachable for manual operation.

To get started on a seasonal high tunnel project, or to learn more, call or stop by your local NRCS or conservation district office. Michigan State University also has helpful information on seasonal high tunnels, visit: www.hoophouse.msu.edu.

Plant Music

by Jennifer Taylor, District Conservationist/Area 3 Plant Materials Committee Representative

The Michigan Plant Materials Committee is concerned with increasing NRCS's knowledge in conservation. We have chosen to reach all of you by creating a little "MUSIC" – Making Us Sound in Conservation. We built on the title of the Michigan NRCS newsletter "Conservation Notes." Our intent is to use the Plant MUSIC article as a regular source of information and updates on new and improved ways of applying conservation plant technology. In future articles we will highlight the research that is/has taken place, other committee activities, and other information related to plant-related conservation technology.

The committee is open to hearing your concerns with implementing conservation techniques/practices tied to plants. During our recent update to our long-range plan it was identified that we need additional knowledge about establishing natural communities, native vegetation on wetland systems, utilizing cover crops in hardwood and conifer plantings and searching for a list of beneficial plants for use in orchard systems for pollinator habitat that will also not cause other pest problems.

The committee is making strides to connect the field, ecological sciences staff and the Rose Lake Plant Material Center with field application. Along with serving as the link between these groups, the role of the committee includes providing direction to the Plant Materials Program, assisting in locating field planting sites, conducting on-site checks of field plantings, reporting observations, and engaging partners with plant materials activities.

Let's make "MUSIC" a reality and Help People Help the Land.

Breakfast on the Farm Begins June 16

The first of eight scheduled Breakfast on the Farm events takes place June 16 on the Myers farm in Kalamazoo County.



Breakfast on the Farm is organized by Michigan State University Extension Service. The event was created to educate the non-farming community about how food is produced and where it comes from. The first Breakfast on the Farm was held in 2009 and since then over 23,000 people have attended the events.

People of all ages are encouraged to attend Breakfast on the Farm events. Attendance is free but attendees must get advanced tickets. Tickets are available at designated locations for each event. A list of event and ticket locations is available online at: www.breakfastonthefarm.com.

Breakfast on the Farm at the Myers Farm offers visitors a free pancake breakfast featuring Michigan-made products. Families can take self-guided tours to see where the farm's 700 cows are milked and housed, and children will have the opportunity to engage in various activities related to farm life.

Events are scheduled during June, July, August and October. The final event is Oct. 6 on the John Schaendorf Dairy in Allegan County.

Breakfast on the farm is supported by statewide and local sponsors. Statewide sponsors include the Michigan Corn Growers Association, Dairy Farmers of America and the Dairy Marketing Service.

Upcoming Events

June

- 16** Breakfast on the Farm, Myers Farms LLC - Kalamazoo County, for more information see page 9
- 20-21** MACD Summer Conference, Treetops Resort - Gaylord, for more information go to: <http://macd.org/summer-conference-2012-home>
- 23** Breakfast on the Farm, Choate's Belly Acres - Jackson County, for more information see page 9
- 24-26** National Value Added Conference, Grand Traverse Resort - Traverse City, for more information go to: www.productcenter.msu.edu

July

- 17-19** Michgian Ag Expo, Michigan State University - East Lansing, for more information see page 8
- 21** Breakfast on the Farm, Goma Dairy Farm - Sanilac County, for more information see page 9
- 28** Breakfast on the Farm, VanDrese Farms - Delta County, for more information see page 9

August

- 1-2** Farm Drainage & Nutrient Management Field Day, Pleasant View Dairy - Jonesville, 9 a.m. to 4 p.m., for more information go to: www.michiganlica.org
- 4** Breakfast on the Farm, May Farms - Kent County, for more information see page 9
- 11** Breakfast on the Farm, Judge Dairy Farm - Isabella County, for more information see page 9
- 15** Lenawee County Center for Excellence Field Day, for more information see page 3
- 25** Breakfast on the Farm, Gingrich Meadows - Osceola County, for more information see page 9

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