



Door-Kewaunee Demo Farm Network

Year 1 Annual Report



Our first year



In a part of Wisconsin that drains into the Great Lakes, a place where fractured bedrock can provide contaminants with a direct path to groundwater, a new partnership has emerged to help producers tackle farming in this sensitive area. The Door-Kewaunee Watershed Farm Network, a collaboration between USDA-Natural Resources Conservation Service, the Wisconsin Department of Agriculture, Trade and

Consumer Protection, and Peninsula Pride Farms (a farmer-led group), was formed to show how different conservation practices can be used to protect surface and groundwater. Through the partnership, participating farms implement different conservation practices and demonstrate the effectiveness of those practices in reducing soil erosion and nutrient runoff while increasing organic matter and soil health.

The four demonstration farms are:

- Augustian Farms LLC
- Brey Cycle Farm LLC
- Deer Run Dairy LLC
- Kinnard Farms

Though much of the first year has involved planning for the future, each farm has been able to apply various conservation practices on at least 200 acres in the project. Here are some highlights from each farm:

- Augustian Farms established an eight-species cover crop blend in August after terminating an existing alfalfa field. The cover crop growth, worm castings, and root mass went far beyond the farm's expectations in the short end-of-growing-season window.
- Brey Cycle Farms increased its investment in cover crops from 40 to 400 acres, while exploring new ways of managing nutrients using new manure technologies in addition to cover crops.
- Deer Run Dairy went from a few hundred acres of cover crops to over 800 in the fall of 2017.
- Kinnard Farms maintained 1,500 to 2,000 acres of cover crops and has decided to install a tile line recovery system in the coming months.



About the farms

Augustian Farms LLC

Augustian Farms is working towards 100 percent no-till on all of its acres. The farm sees no-till as an opportunity not just to increase soil health and water infiltration but also as a way to increase profitability. No-till means less time out in the field and less fuel spent on tillage.

The farm also plans to interseed cover crop blends into corn silage. Interseeding will allow the cover crops plenty of time to grow before silage is harvested. In the fall, the farm will apply lower rates of manure to those cover crops. The cover crops can utilize the nutrients from the manure and help reduce nutrients leaving the field. Then, in the spring, the farm can apply the remaining gallons of manure to the fields to help balance out any nutrient needs. At planting time, the farm will then use a no-till system for planting corn into the fields of cover crops.

Other ideas that the farm is exploring include ways to collect and irrigate rain water and leachate from the bunker silo area through a center pivot irrigation system. This would reduce the number of loads hauled on town roads and the compaction rate caused by trucks driving through fields. The farm is also exploring the feasibility of installing an edge-of-field nutrient removal system as well as a monitoring system that will evaluate the effectiveness of the various conservation practices that the farm is implementing.

Brey Cycle Farm LLC

Brey Cycle Farms will use an airflow interseeder to interseed cover crops into V2-V3 standing corn. Once established, the cover crops will produce nitrogen for the next year's corn. Instead of using winter rye, a typical cover crop, the farm has experimented with using triticale, which has a number of benefits. The crop will help produce forage, recover nutrients, retain water, and increase cover to reduce soil loss. Incorporating the use of cover crops will help provide additional timing and flexibility for manure application.

In addition to using cover crops, Brey Cycle Farms also intends to expand the number of acres in no-till. The farm experimented with

Continued on page 3



No-till drilled rye after corn silage

no-till on 200 acres, planting wheat, winter rye, and triticale after corn silage. After experiencing some success in 2017, the farm intends to expand the number of acres in 2018.

The farm has plans to monitor the effects of these conservation practices in two ways. First, they will use soil health kits on several of their fields, which will track numerous nutrient and soil health levels. Second, the farm has created a soil health side-by-side field comparison. This will measure the increase in organic matter from manure applications and cover crops on two of the fields enrolled in the demonstration farm program. The soil test levels will then be closely evaluated in a coordinated study to be completed by 2019.

Deer Run Dairy LLC

Deer Run Dairy is hoping to improve the farm's soil health and reduce erosion. The farm has been utilizing no-till practices, but must deal with the challenge of managing manure. Planting without tilling means that manure cannot be incorporated into the field in the conventional way. Instead, manure must be applied to the surface of the field. However, in surface application, manure cannot be spread on some parts of the fields and the farm must use commercial fertilizers in those areas. To tackle these setback challenges, the farm hopes to participate in an edge-of-field monitoring project. The project, along with low-disturbance manure application, no-till, and cover crops, should help reduce the setback restrictions.

In order to improve soil health and reduce soil erosion, the farm has already established no-till after harvesting corn silage in the fall. In addition, the farm plants winter wheat as a cover crop. The farm plans to continue these practices while also exploring different options for planting into the cover crops. One goal is to look at plants that can be terminated at a later stage of development. To help manage nutrients, the dairy is exploring options to side-dress manure into corn. This practice will expand the window in which manure can be applied to a growing crop. By applying manure during the growing stage, the farm is increasing the time in which nitrogen is available to the corn. Deer Run Dairy also plans to look at options for composting liquid manure, reducing the amount of water that needs to be hauled and reducing any potential impacts on water quality.

Kinnard Farms

To offset the farm's fertilizer needs on its alfalfa fields, Kinnard Farms has been utilizing low-disturbance manure application. The farm understands that agriculture can provide answers to a variety of conservation issues. New technologies like low-disturbance manure application may be helpful in reducing nutrient runoff.

The farm also intends to install a tile-line nutrient recovery system in 2018. Such a system filters water before it exits the field, collecting excess nutrients and trapping them in a mulch bed. Once installed, the system will be an important educational tool for other farmers. Kinnard Farms has used no-till practices for many years to improve



Winter Triticale cover crop planted for soil health, erosion protection, taking up any remaining nutrients and holding them for the next year's crop as well as a possible spring forage.

soil health. The farm will build on this practice and monitor the effects that different cover crop combinations and low-disturbance manure applications may have on the health of the soil. The lessons learned will be shared with other farmers and help demonstrate the benefits of different conservation practices.

Accomplishments at a glance

- 9 project management team meetings held
- 3 farmer group meetings held
- 1 advisory team meeting held
- 4 conservation plans drafted
- 1 event coordination plan completed, updated annually
- 3 tours hosted
- 3 field days
- Website created
- Facebook page created: 89 likes, 93 following
- 240 basic soil samples taken
- 2 farms sampled using soil health analysis
- 800 acres of soil electrical conductivity mapping completed

Contact our team

Nick Guilette, AgSource Laboratories, (920) 304-6293
Barry Bubolz, USDA NRCS, (920) 360-0627
Nathen Nysse, Tilth Agronomy Group, Inc., (920) 858-5756

USDA is an equal opportunity provider, employer and lender.



Sept. 7, 2017: "Kick-Off Field Day" at Deer-Run Dairy, LLC in Kewaunee. Attendance: 105

- Soil pit and soil health discussion by UW-Extension
- Low-disturbance manure application demonstrations
- Tile monitoring project discussion by UW-Discovery Farms
- NRCS rainfall simulator demonstration



Nov. 9, 2017: Fall Field Day at Larry Babler Farm in Sturgeon Bay. Attendance: 65

- Soil verification and soil mapping discussion by NRCS
- Soil mapping discussion using Electrical Conductivity featuring the Veris & EM38 technologies
- Low-cost cover crops applications presentation by Caleb Cornell of Door County Cooperative
- Low-disturbance manure applications



March 9, 2018: DK Demo Farms and Fox Demo Farms Winter Workshop at Buresh Farms in Luxemburg and Strip-Till Workshop at Clark Riemer's in Kewaunee.

Attendance: 60

- Presentation on converting a conventional planter to a no-till planter by Todd Vogel of Riesterer & Schnell
- Presentation on guidance technology and ETS strip-till unit by Joe Sinkula of Rietserer & Schnell and Dave Sender of ETS
- Farmer panel that featured Derek Van De Hey, Julie Hagar and Clark Riemer on conservation benefits of using no-till and strip till practices
- Discussion on strip-till unit and modifications to a no-till planter by Clark Riemer's Farm and Seed Concepts

Join our Field Days on the Fly!

Text DKDemoFarms to 88202

Follow us on Facebook and check out our cover crop videos:

<https://www.facebook.com/DKDemoFarms/>

For more information:

dkdemofarms.org

"Field Days on the Fly"

Sept. 18, 2017:

- Discussion by Augustian Farms on interseeding cover crops
- Tour included walking within the standing corn to view the cover crop before the corn was harvested for silage

Nov. 17, 2017:

- Discussion of soil health, cover crop options, what worked in 2017 and what didn't and a tour of fields where cover crops were planted by Kinnard Farms
- Discussion of how the planting date, depth and rate can affect the farm's cover crop stand in the fall by Land Conservation staff members, agronomists and NRCS staff



Door-Kewaunee Demonstration Farm Network Partners



PENINSULA PRIDE FARMS



United States Department of Agriculture

Natural Resources Conservation Service

This project is funded by the Great Lakes Restoration Initiative.

