

UPPER FOX-WOLF DEMONSTRATION FARM NETWORK

REPORT



Upper Fox-Wolf
Demonstration Farm Network

Protecting Wisconsin's Soil and Water Resources

Year 4 (2022)
Annual Report



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ABOUT THE DEMONSTRATION FARMS

The Upper Fox-Wolf Demonstration Farm Network, a collaboration between U.S. Department of Agriculture, Natural Resources Conservation Service, and Waupaca County Land & Water Conservation Department, in partnership with Fond du Lac, Green Lake, Marquette, Outagamie, Portage, Shawano, and Winnebago counties and the Green Lake Association, was formed in 2018 to test and demonstrate conservation practices to reduce phosphorus, nitrates, and sediment entering the Great Lakes basin.

The ten demonstration farms represent a wide range of farm types, but all have a common goal – to share the knowledge learned on their farms about innovative techniques to improve soil health. These farmers, with technical support from the project management team, voluntarily implement conservation agricultural



practices in their operations. They also host educational field days and share their soil health journeys with other farmers and the public with the goal of helping others implement soil health practices in their operations. In this way, the Network tests and demonstrates the best conservation practices to reduce non-point source pollution entering the Great Lakes basin.

CONTACT OUR TEAM

- **Matt Brugger** (Project Manager)
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UPPER FOX-WOLF
Demonstration Farms Network

FARM SUMMARIES



Jamie Albright

ALBRIGHT BROTHERS, LLC

WINNEBAGO COUNTY

- The farm has utilized no-till on many of their acres, recognizing the benefits to soil health. The farm has found that their no-till acres are more accessible during the year and they are able to avoid getting stuck in wetter areas of fields that would be full of ruts under normal tillage conditions.
- The Albrights tried new multispecies cover crop mixes following wheat.

Plans for the Future

- They hope to try interseeding in the future as a way of establishing covers in their corn grain fields as well as to continue experimenting with multispecies mixes.



Dan & Ruth Boerst

BOERST FARM

WAUPACA COUNTY

- Dan has embraced many soil health practices on his farm including multi-species cover crops and no-till practices.
- Dan fenced in some of his cropped fields and continues grazing cover crops after harvest of his row crops.
- In Fall 2021, the farm planted peas and clover to grow nitrogen for his corn crop in 2022.
- Dan also planted a large cover crop plot in the Fall of 2022 to monitor how different plant species interact.
- Dan grows some cover crop seed and also provides many of his neighbors with seed as well.

Plans for the Future

- The farm plans to continue to innovate and try new practices while focusing on soil health, including utilizing unharvested cover crops on fields for a year to provide a break in his rotation.

FARM SUMMARIES



Adam & Kristy Erickson and family

ERICKSON DAIRY FARM

OUTAGAMIE COUNTY

- The farm continues to implement no-till practices on some of their acres.
- They continue using their Bazooka Low Disturbance Manure Application (LDMA) tool bar mounted on a tanker to apply manure.
- In 2022 they made modifications to their planter to better handle no-till fields.

Plans for the Future

- The farm plans to continue to implement cover crops and expand their no-till acres. They also continue to modify their planter to better fit their no-till acres.



Rick & Kimberly Gehrke and family

GEHRKE FAMILY FARM, LLC

WINNEBAGO COUNTY

- The farm continues to plant no-till and plants green whenever possible.
- Rick continues to monitor soil health on his no-till conversion acres, utilizing two temperature sensors, one in a long term no-till field and one in the conversion field.
- Data from the weather station with temperature and moisture sensors that was installed on the farm is available through the Network's Facebook page and website.
- Rick continues to establish multi-species cover crops following wheat and rye crops and held a summer field day in 2022 on that topic.
- For the last three years, the farm has interseeded rye into standing corn.
- The farm also began trying a biological product in furrow for improving soil health in Spring 2021 and continued its use in 2022.

Plans for the Future

- The farm plans to continue to find new ways of integrating cover crops and hopes to find a way to integrate livestock.

FARM SUMMARIES



Matt & Sara Hintz with their son

HINTZ FARM

PORTAGE COUNTY

- The Hintz Farm practices no-till farming with cover crops.
- Matt Hintz utilized Haney testing on several corn fields to determine his sidedress nitrogen rate.
- The farm also utilizes grazing to manage their beef herd that is sold locally.

Plans for the Future

- The farm plans to continue experimenting with soil health practices to better improve their operation. They also plan to integrate livestock onto their crop land in 2023.



Ed Montsma

PINEY LAWN ACRES

FOND DU LAC COUNTY

- Ed Montsma has practiced no-till for over 20 years.
- The farm has been utilizing cover crops and for the last three years planted multi-species covers after wheat.
- In 2022, the farm planted corn into high residue following the multi-species cover crops planted after wheat.

Plans for the Future

- The farm plans to continue experimenting with covers to improve soil health and has expressed interest in late season interseeding.

FARM SUMMARIES



Chris Pollack

POLLACK-VU DAIRY, LLC

FOND DU LAC COUNTY

with funding from

GREEN LAKE ASSOCIATION

- The farm has implemented some no-till practices on some of their acres.
- Chris Pollack grew a multispecies cover crop following canning peas that was then grazed by his steers.
- In 2022, the farm hosted a fall field day to discuss interseeding and grazing.
- The farm also had temporary temperature sensors installed in a no-till field and a conventionally tilled field for a second year.
- The farm interseeded around 30 acres of grain corn, also to be grazed.

Plans for the Future

- The farm plans to continue planting more covers and finding ways to use them to improve their operation.



Dave and Dusty Schultz

SCHULTZ LEGACY FARMS

FOND DU LAC COUNTY

- Schultz Legacy Farms practices no-till across all of their acres.
- Over the last few years they have integrated cover crops into their operation.
- Schultz's continue to utilize a self-propelled Hagie modified for cover crop seed they use to do late season interseeding in corn and beans on their acres as well as doing custom work.
- The farm uses rye cover crops as well as utilizing some multi-species cover crops.

Plans for the Future

- The farm plans to continue implementing more cover crops as well as experimenting with different cover crop mixes.

FARM SUMMARIES



Greg & Steve Tauchen

TAUCHEN'S HARMONY VALLEY FARM

SHAWNO COUNTY

- In 2022 the farm continued to plant hundreds of acres in rye cover crop, some of which are harvested for feed.
- The farm also interseeded a multispecies cover crop mix on 20 acres of corn silage for the 4th consecutive year. Following harvest, they made a Low Disturbance Manure Application (LDMA) using an Aerway unit.
- Haney soil health tests were pulled in the interseeding field and a neighboring conventional tilled field.
- The farm also hosted a chemical trial for use with interseeding fields as well as testing the network's new 12 row Interseeder unit.

Plans for the Future

- The farm plans to continue utilizing cover crops to protect their soil and provide feed options. They will also continue to evaluate interseeding as a way of establishing multi species covers and improving soil loss protections.



Zeb & Melanie Zuehls and family

ZUEHLS FARMS

MARQUETTE COUNTY

- The farm has gone to strip-till and no till across its acres.
- In 2022 the farm hosted an interseeding demonstration in June and a field day in September.
- The farm had temporary temperature sensors installed in two fields to monitor changes through the season for the 2nd year, as well a sensor placed in a neighbors tilled field.
- The farm utilizes rye cover crops and has experimented with multi-species cover crops and both early and late season interseeding.

Plans for the Future

- The farm plans to continue to integrate cover crops and look for ways to improve soil health.

OUTREACH ACTIVITIES



In-Person Outreach

Farmers learn best from other farmers and when the information they receive is locally-based and relevant to them. For this reason, one of our main outreach strategies is in-person field days. Farmers, agency personnel, and county conservation professionals attend in-person days where they are shown local soil health practices our demonstration farmers are using.

Participants can ask questions of demonstration farmers, and can see on-the-ground practices that are working. They may also find practices that aren't working so well, and can explore ways to adapt these practices to work better in their systems.

In-Person Outreach at a Glance

This year, in conjunction with our partners and with the support of the demonstration farmers, we hosted three large field days and one field day on the fly.

Field Days

Field Day at Gehrke Family Farm

- Topics included: diverse cover mixes after wheat, interseeding chemical plot, & soil health discussion
- September 8

Zuehls Soil Health Field Day

- Topics included: rainfall simulator demonstration, cover crop walk, soil pit
- September 20

Pollack Vu Dairy and Steer Farm Field Day

- Topics included: multi-species cover crop mix, grazing cover crops, and cover crops interseeded into corn
- October 12

Field Days on the Fly

- Interseeding cover crops into corn using a 6 row Interseeder
- Zuehls Farm
- June 6



Participants at a field day.

Outagamie County's 6-row interseeder.



FIELD DAY ON THE FLY

A POP-UP LEARNING OPPORTUNITY FOR FARMERS

ZEB ZUEHLS INTERSEEDING DEMONSTRATION

June 6, 2022 - Zuehls Farm

This field day on the fly featured Zeb Zuehls interseeding cover crops. Zeb shared his interseeding process and demonstrated interseeding cover crops into corn with Outagamie County Land Conservation Department's 6-row interseeder. He also discussed the cover crop species he was using, his timing, the chemical program he uses, and some trials he was conducting. This event was hosted in partnership with Marquette County Land and Water Conservation. We followed this pop-up event with a full-size field day in the fall for folks to see how the interseeding worked out.



Zeb Zuehls shares his interseeding experience.

Zeb 's field after being interseeded.



FIELD DAY AT GEHRKE FAMILY FARM

September 8, 2022

This field day showcased Rick Gehrke's soil health practices for 2022. Specifically, Rick discussed his use of diverse cover mixes after wheat. He also shared what he considers when using diverse cover crops after wheat. The discussion also included the species Rick uses, cost considerations, and how he deals with water hemp.

This growing season, project manager Matt Brugger and Rick conducted trials with many commonly-used herbicides to determine which suppress weeds the best, while still allowing cover crops to thrive. Matt, shared preliminary results so farmers could learn about chemical options when interseeding cover crops into corn.

Participants also learned about soil health and examined some samples with NRCS' Derrick Raspor. He showed examples of soil aggregates, and performed a Slake test. With this visual, attendees could see the soil's ability, or inability, to resist erosion and explore how well the soil could maintain its structure to provide water and air for plants and soil biota when it was rapidly wetted.

This field day was hosted in partnership with Winnebago County Land and Water Conservation Department.



Rick Gehrke shares his cover crop mixes and experiences.



Derrick Raspor shows soil properties.



Participants listen to the soil health discussion.

ZUEHLS SOIL HEALTH FIELD DAY

September 20, 2022

This field day was a follow up of Zeb's Field Day on the Fly (see page 8) and was intended to showcase the cover crops that had been interseeded in early summer. This day was put on as a partnership with Marquette County Land and Water Conservation. Zeb shared his experience with cover crops, and discussed chemical options he uses.

Attendees got to see soil health via soil pits, which Jamie Patton discussed. Topics included building organic matter, soil compaction, and building resilience in soils, among others. Two soil pits were used, one on the field border, and one at the tree

line. In this way, participants got to view soil in an agricultural system, plus an undisturbed area.

A rainfall simulator also helped participants see soil health. Derrick Raspor compared a conventional field, a no-till soybean field with residue and current cover crops, and undisturbed natural soil and demonstrated how rain runs off or infiltrates soils that are managed differently in the same area.

Morgan Kepler and Pat Kilbey discussed cost share and technical assistance opportunities farmers can take advantage of in Marquette County.



Zeb Zuehls shares his cover crop experience.



Marquette County staff discuss cost share opportunities.



Jamie Patton talks about soil health from a soil pit.

POLLACK VU DAIRY & STEER FARM FIELD DAY

October 12, 2022

This field day featured Chis Pollack sharing about his plan to incorporate livestock into his cash crops using a multi-species cover crop mix that was planted after canning peas. Chris discussed how he planted 9 species of cover crops with a plan to graze his cattle on early in the fall and then transition them to the interseeded corn residue (on a different section of the field) later in the fall or early winter.

Derrick Raspor joined Chris in the presentation to discuss which cover crop species they'd chosen for the mix, and why. They also discussed planting timing and what that meant for the forage available to the cattle. Plus, Derrick shared about the fencing and rotational grazing strategy they'll use.

Attendees learned about the cover crops interseeded into corn using 4 different mixes from Chris and Matt Brugger. Matt shared images demonstrating how the cover crops grew throughout the months leading up to the field day. Chris also shared his planting process including the machinery he used and how it worked on the residue in the field. These interseeded sections will be used for grazing cattle once the corn is harvested, so attendees learned the forage abilities of this type of planting and timing structure.

Derrick also showed attendees how managing soil differently contributes to soil health with the rainfall simulator and various soil samples from Chris' fields.



Chris Pollack discusses his multi-species cover crop mix.



Participants learn about soil health.



Matt Brugger shares cover crops interseeded into corn.

OUTREACH ACTIVITIES

(CONTINUED)



Filming Dan Boerst discussing Wyoming winter peas and balansa clover trials.

Digital Outreach

This year we continued to utilize and expand our digital outreach. Notably, we focused on telling farmer's stories in their own words. We also began sharing whole seasons of farmer's experience with specific soil health practices via photo stories.

Aside from in-person events, our main outreach tactics have been to create digital materials that are available online for farmers to access at their convenience. This has included educational Facebook posts, and videos around soil health topics.

We also purchased, in partnership with Between the Lakes Demonstration Farms Network, additional audio and visual equipment to support our outreach specialist, Maranda Miller, in producing professional materials.

Digital Outreach at a Glance

Educational Materials Created:

- 6 videos
- Facebook posts
 - Our materials
 - >20 posts
 - Sharing Others' Materials
 - >6 posts

Event Promotion, Thank You's, and Photos

- 25 posts

Outreach Materials Purchased

- Zhiyun Smooth 5 Gimbal
- Manfrotto tripod
- DJI Wireless Microphone system

Communication Platforms Utilized

- MoboMix Text
- Eventbrite
- Facebook
- Twitter



A gimbal, tripod, and wireless microphones purchased this year in partnership with Between the Lakes Demonstration Farms Network.

OUTREACH ACTIVITIES

(CONTINUED)



Farmer Videos and Branding

This year, we focused our video outreach efforts on telling farmer's stories with soil health practices in their own words. This was accomplished by recording farmer's stories at field days, then shaping those into video stories.

Importantly, we also created consistent branding across the thumbnails by using similar colors and fonts throughout the season. This created an eye-catching appearance, and showcases Upper Fox-Wolf

Demonstration Farms as a professional source of information. Thumbnails were also created to emphasize a piece of machinery, or a farmer sharing their story, with the intent of communicating at-a-glance that viewers would learn directly from farmers.

We posted these video stories on our Facebook page, and our YouTube channel. We did paid promotions for the videos on Facebook to encourage more views.

This effort paid off as the videos were viewed by thousands of people. See the top-performing videos below.

These video thumbnails illustrate the focus placed on consistent branding this year.



Top Performing Videos

- Testing 2 Ways of Planting Green
2.2 k views – Spent \$25 boosting the post
- Planting Green then Roller Crimping
2.3 k views – Spent \$25 boosting the post
- Winter Peas and Balansa Clover as an Overwintering Cover Crop
3 k views – Spent \$25 boosting the post

OUTREACH ACTIVITIES

(CONTINUED)

Photo Stories

This year, we created photo stories to showcase demonstration farmer's experiences trying certain practices. These stories are a collection of images, often encompassing a whole growing season. Matt Brugger supplied images from the field, then Maranda Miller and Matt designed interpretive text for each image. Maranda shared these stories on our Facebook page as albums so farmers can explore a whole season's progression. The idea was that we provide a "proof of concept" for farmers interested in trying a practice. We also highlighted difficulties farmers may have experienced and point out ways these practices may be adapted to reduce those difficulties. We link each photo story to other relevant content we've created, such as a video interview with the farmer.

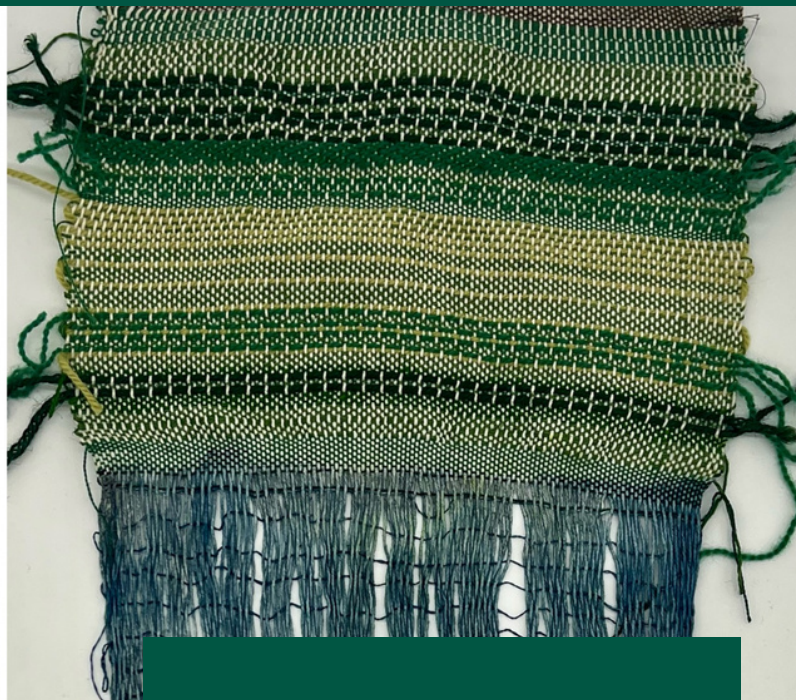
Below is one example. Note, in the album itself each image has a few paragraphs of text describing pertinent details to farmers.



ART + SCIENCE COLLABORATION

BRINGING THE DEMO FARMS' WORK TO THE PUBLIC

Floor loom weavings represent the work of the demo farms.



Student Artist

I am a sophomore at UW-Madison studying Fashion and Textile Design with a Certificate in 3-D Design. I have been looking for a way to utilize my artwork to connect and change the world around me. This opportunity was the perfect way to explore making art for greater change.

-Maia Rauh



Change is in The Soil

The demo farm's work reached new public audiences via a partnership with UW student artist, Maia Rauh and Demo Farm's outreach specialist, Maranda Miller. The pieces created represent traditional farming (left), and demonstration farming techniques (right). Maia used traditional and experimental weaving techniques, as well as various colors, patterns, and materials to represent different farming techniques and their impacts on soil and water health.

Maia's work was displayed at UW-Madison's School of Education Gallery summer 2022, was presented at the Water@UW-Madison's virtual Spring Symposium, and is available for viewing at Water@UW-Madison's website. Maia's full artist statement describing the pieces can be found at:

[Water.wisc.edu/the-flow-project/2022-artist-cohort](https://water.wisc.edu/the-flow-project/2022-artist-cohort)

Water Partner

Art is a powerful interpreter of abstract concepts, such as how water quality can be influenced by how we manage the soil. In my own work, I use art in the forms of photography, videography, and graphic design to communicate concepts and aid farmers in adopting soil health and water quality practices. I'm grateful for the opportunity to work with Maia, a talented artist, to bring the positive message of the demo farms to the public.

-Maranda Miller





2022 FARMER ROUNDTABLE:

REDEFINING THE SOIL HEALTH CONVERSATION

ADDITIONAL PROJECTS

2022 Farmer Roundtable

This year we continued to build upon our partnership with the Fox-Wolf Watershed Alliance (FWWA). We contributed multiple articles to their newsletters including Winnebago Waterways e-news, and their semi-annual Basin Buzz mailer. We co-hosted the 2022 Farmer Roundtable event with FWWA, which had about 105 attendees. Matt, Derrick, and Maranda have been planning with FWWA for a few months at the end of 2022 for the 2023 Farmer Roundtable.

Maranda also created and analyzed the 2022 Farmer Roundtable event evaluation. We had 54 respondents, 40 who indicated they were farmers. Through that survey we learned that participants enjoyed the Roundtable event, with the keynote speaker (Keith Berns) and the farmer panel sessions ranking as the highest satisfaction. We discovered we drew participants from two main counties; Winnebago and Fond du Lac.

Regarding soil health practices, our respondents told us they had mainly tried or incorporated cover crops, reduced tillage, or planting green. We also learned that cover crop information was very important to our respondents. They indicated this in the practices they've tried or permanently incorporated, what they were likely to try in the 2022 growing season, and what they would like to learn more about.

**Note: Our event evaluation data came from <40 farmers and therefore findings must not to be extrapolated to represent all farmers or the entire watershed.*

The UFW demo farm team assisted in planning and hosting the 2022 farmer roundtable, and conducted an evaluation of the event.



2022 Farmer Roundtable Evaluation Findings

Project Partners



Partner Contacts

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Report Credits

Report Created by - Maranda Miller

Farm Summaries Written by - Matt Brugger

Cover Image - Dan Hagenow Video Creation

Weaving Image - Courtesy of Maia Rauh

Maia Rauh Image - Courtesy of Maia Rauh

Maranda Miller Image - Lance Paden

Field Day and Outreach Activities Images - Maranda Miller

Farm Summary Images by - Dan Hagenow Video Creation, Wisconsin Corn Growers Association, Country Visions Cooperative, USDA NRCS

WE'RE LOOKING FORWARD TO 2023!

UPPER FOX-WOLF DEMONSTRATION FARM NETWORK

Protecting Wisconsin's Soil and Water Resources

USDA is an equal opportunity provider, employer, and lender.