



The Tree

The Discovery Farms® Program Newsletter

Spring 2020

INSIDE

Beginning at the beginning

PAGE 1-2

Partner piece: Water quality monitoring with the Producers of Lake Redstone

PAGE 3

The farms behind the dataset

PAGE 4-5

Steering Committee Spotlight: Kay Zwald, Vice Chair

PAGE 5

We are here for you.

PAGE 6

Beginning at the beginning

Erica Olson, erica.olson@wisc.edu

The first-ever Discovery Farms Summit took place on January 7-8 in Bloomington, MN. Dennis Frame and the first Discovery Farms Participant, Joe Bragger, (who joined virtually as he assumed newly assigned Wisconsin Farm Bureau President duties in Madison), opened the show and presented on the beginnings of the Discovery Farms Program in Wisconsin.

Dennis Frame and Fred Madison co-founded the Discovery Farms Program in the early 2000s. The Discovery Farms Program was crafted in response to proposed policy rules that would create challenges for many Wisconsin farmers.

Dennis testified against these rules in Madison and was then asked to do an analysis of the on-farm impact the rule would have. He found in his analysis, which took place from 1996-1999, that of the 32 farms he studied throughout Wisconsin, 28 of the farms could not comply with these proposed rules. This was the beginning of Dennis's work in the water quality and soils world that would lead him to become one of the Co-Founders of the Discovery Farms Program.

A systems approach to research

In 1999, Dennis and Fred took a trip to the Netherlands where they studied an on-farm research program and came home with a vision for a new program. Their vision was to take a systems approach and perform research on real, operating farms to identify environmental issues and work with farmers to find solutions. They had no funding, no name or no structure, but they knew with the pressure the dairy industry in Wisconsin was under, something needed to be developed. If Discovery Farms didn't happen, something else would have.

There was thought, creativity and grit put into the initial plans for the program, and since 2001, the program has stayed true to its mission statement as Dennis said, "we spent 2 or 3 meetings arguing over the mission statement."

continued on page 2



Dennis Frame speaking at the Discovery Farms Summit in January 2020



DISCOVERY
FARMS
WISCONSIN

www.uwdiscoveryfarms.org



Extension
UNIVERSITY OF WISCONSIN-MADISON

“The Discovery Farms Program committed early on that we would never be on a farm for more than 5-7 years,” explained Dennis. “In Wisconsin, we have a lot of farms, a lot of set ups and a lot of systems and I wanted to get on as many as I could.”

To reach the Discovery Farms goal of solving water quality impairments in Wisconsin, farmers need to be engaged and involved in finding the solutions. “We don’t just generate data, we get the data out there,” said Dennis. A farm like Joe Bragger’s located on a challenging landscape, was exactly where they needed to generate data from to start out.

The first Discovery Farm

Joe Bragger farms in Western Wisconsin on steeply sloped land. He became the first farm to install monitoring with Discovery Farms. He got involved because he wanted to know why the two-miles of stream that runs through his farm was healthy and spawning trout when the proposed rules were telling him he would need to take more than 200 of the cropped acres on his farm out of production in order to protect water quality.

Joe incorporates multiple conservation practices into his farming system. “I have stolen a lot of great ideas from other farmers. My farm is not special, it is representative of a lot of farms in WI. The list of farmers I learned practices from is long,” Joe explained, “I believe ALL of the practices contribute to minimizing loss.”

The five main practices Joe and the Discovery Farms project attributed these reduced losses to include;

1. Well maintained grassed waterways
2. Dams which slow runoff at the bottoms of ravines
3. No-till farming with well-maintained residue
4. Improved and maintained stream banks
5. Cover crops

Joe and Dennis closed their presentation by recognizing Discovery Farms Co-Founder Fred Madison who passed away in 2019. Fred was one of the main reasons Discovery Farms was successful in Wisconsin. He connected the program to UW-Madison and provided a voice of reason. §



Original Mission Statement

Determine the impacts of production agriculture on the environment, while learning the economic and environmental ramifications of adopting Best Management Practices on a diverse group of Wisconsin farms.



Partner piece: Water quality monitoring with the Producers of Lake Redstone

Redstone Juneau County Land and Water Office

During their first full year as a DATCP producer-led initiative, The Producers of Lake Redstone have jumped in feet first. Planting 240 acres of cover crops within the watershed as well as planting 70 acres of innovative manure sharing cover crop test fields. These manure sharing fields allow the distribution of manure in the watershed to fields that wouldn't normally receive manure. This practice not only builds up soil health, but allows farmers to spread manure during the growing season for crops to uptake the nutrients; reducing runoff as a result.

The two Discovery Farms edge of field monitoring sites installed in September of 2018 in the Lake Redstone Watershed recorded 10 runoff events in 2019, these events include spring snow melt and rainfall. Our busiest time for runoff was in March of 2019 with snowmelt, requiring all hands on deck to make sure the equipment was clear of ice and samples were collected in time for the next runoff event. If you are interested in viewing the USGS Real Time Data of the edge of field sites go to <http://www.uwdiscoveryfarms.org/usgs-real-time-data>

On July 30th of 2019 the Producers of Lake Redstone had their first field day. The 30 plus attendees included farmers, lake protection district members, and conservation staff. The event started at the Summit Park in Juneau County and from there we traveled to Brian Daug's farm to check out the work the producers are doing in the watershed and showcase the Discovery Farms edge of field monitoring equipment. Travel to the farm was a short tractor ride in a hay wagon, the ride allowed interaction and conversation between attendees. At the edge of field site, Brian Daug's, a



Sarah Fleck from the Juneau County Land and Water Department collects runoff

beef and cash crop producer, talked about his farming practices at the site and on his farm. He is a 4th generation farmer who farms 550 acres, most of which are in the watershed, who is active in soil health and 22 years of no-till practices. Tom Schlough, a dairy farmer from Wegner Farms, also spoke about his efforts to inter-seed cover crops within the watershed, he believes that this conservation practice has not only improved his soil health but also the farm's relationship within the Lake Redstone community. After lunch at Summit Park and a runoff demonstration with a rainfall simulator, the group proceeded to Lake Redstone where members of the Lake Redstone Protection District took the group on pontoon tours of the lake. Attendees were given a history of the lake and were able to see the dredging crew actively removing sediment from the lake. This field day gave producers and members of the Lake Protection District a unique opportunity to interact and share ideas about soil loss and water quality improvements in the fields and on the shoreline.

If you would like to see updates from Juneau County Land & Water or the Producers of the Lake Redstone Watershed, like us on [Facebook](#) at

<https://www.facebook.com/Juneau-County-Land-and-Water>

<https://www.facebook.com/Producers-of-the-Lake-Redstone-Watershed> §



Dustin Ladd and Brian Goepfert visiting a monitoring station in the winter samples Wisconsin



The farms behind the dataset

Erica Olson, erica.olson@wisc.edu

Farmers are the backbone of Discovery Farms. By opening up their farms to research, farmer participants unlock our Programs' capabilities to generate data to find workable solutions that address environmental concerns. At the Discovery Farms Summit held in January, a panel of Discovery Farms participants had an opportunity to share what they have learned through research conducted on their farms.

Dennis Mitchell is a farmer in St Croix County, Wisconsin. He was a Discovery Farms participant from 2010 to 2017 as a part of the Dry Run Watershed Project. Mitchell farms with his son Kyle and his brother Steve. They have a 100 cow dairy and crop 3600 acres.

"I was all for it right away. We were getting a lot of pushback from regulation. I wanted to see how we were doing on our farm. I also wanted to see if we could improve things. If we get some actual facts and good figures, we can pass it on when talking to people," Dennis explained when talking about how and why he became a Discovery Farms participant.

Dennis's farm uses irrigation and they track how much water is applied with rain gages that contain a sensor in the ground. This has been quite a benefit to ensure they are efficient with their water applications. It was a benefit to have irrigation over one of the Discovery Farms sites on his farm to learn the effects it has on runoff content.

Dennis also shared his biggest lesson from being a Discovery Farms participant, "We were no-tilling our soybeans since the 90s. We started having problems with slugs. I heard that if you want to get rid of slugs you

can use one pass of tillage with a disk in the spring. Sure enough, one of the years we did that, there was a major rainfall and it showed up on our runoff station. Needless to say, that was the last year we did that. If we can keep the soil intact, that's good. We want to keep it in tact. So we deal with some slugs in our soybeans from no-till."

Their farm makes conservation a priority and incorporates waterways throughout their farm. Dennis highlighted his concern for all farms being treated the same when it comes to regulation based on modeling. His goal was to have his farm's involvement in the Discovery Farms Program show conservation efforts can make a difference and that each farm might have a different approach that works for them.

"Every farm, every part of the state is so different. It's hard to lump sum answers. We saw night and day differences, there was no comparison from Discovery Farms Monitoring three miles apart in our watershed," Dennis shared as the panel wrapped up, "you have to involve the farm to determine what works best for their situation."

Jared Nordick was also on the participant panel and is a past Discovery Farms Minnesota participant. Discovery Farms Tile Monitoring took place on the Nordick Farm beginning in 2012. His farm is located in Wilkin County near the Minnesota and South Dakota border. Jared farms with his dad growing corn and soybeans. At first, his dad was skeptical of hosting research on their farm. Jared said to his father, "Well don't we want to know how we are doing on our farm?" Jared said his dad came on board pretty quickly soon after they talked about the project.



Dennis Mitchell speaking at the Discovery Farms Summit

"Every farm, every part of the state is so different. It is hard to lump sum answers."

"you have to involve the farm to determine what works best for their situation."

continued on page 5

Harvesting at the Nordick Farm



“There was a lot of mud in the Red River Valley last year,” Jared exclaimed. He noticed the poor soil structure on some of their farm fields and is determined to incorporate new farming practices to make improvements. One practice he is proud of that they perform on their farm is including filter strips. These strips filter nutrients from the water before they hit the stream.

“We have had over 1000 people come looking at our farm. Canada has been looking at us a lot, so having Discovery Farms tile monitoring has helped as they look to do more tiling and the implications it could have,” concluded Jared.

Steering Committee Spotlight: Kay Zwald, Vice Chair

My name is Kay Zwald. My husband Bob and I, along with our son Tom and his wife Ashley, and our daughter Annette and her husband Steve Schalla, own and operate Bomaz Farms in Hammond, WI. We currently milk about 850 registered Holstein cows. We grow our own feed on about 2,000 acres of owned and rented land.

Our children are the third generation on this farm. We hope to keep it viable for many generations to come.

I represent Dairy Farmers of Wisconsin (DFW) on the Discovery Farms Steering Committee.

<https://www.wisconsin dairy.org/>

As a dairy farmer it is so important to keep the land healthy, so we can grow the best feed for our animals while maintaining and improving soil health. The only way to do that is with sound, on farm science. What happens in the field can't be replicated in a lab the same way. The Discovery Farms scientists and their work help bridge the gap between the room where results are written on paper and the applied field practices.

Jared wrapped up by saying, “On a farm, you have to find out what works for you and use the resources you have available.”

Discovery Farms values our participants, and as Warren Formo, Minnesota Agricultural Resources Center Executive Director stated when he opened this panel, “Without the farmers willing to allow research on their farms, our programs would not exist.” §

I volunteered to be the Discovery Farms representative from DFW after several great conversations with Dennis Frame. I value the actual science of how water movement affects all aspects of our farm. Our cows must have awesome fresh water available to them at all times. We use their manure as fertilizer reducing our need for commercial fertilizer for our crops. This recycling is necessary to keep the farm sustainable while producing the great nutritious product – MILK!

On our farm we have participated in the NUE (Nitrogen Use Efficiency) project. The project shows not only how efficiently we are using nitrogen but more importantly how various practices vary from field to field on our farm. As we all know, there are times in the life cycle of the corn that nitrogen needs to be available to the plant. Research through the NUE project helps us understand how and when the nitrogen is most available to the corn plant.

I value that the Discovery Farms Program is farmer-led and I look forward to continuing to be a part of the Steering Committee. §



We are here for you.

A message from Discovery Farms Co-Director, Amber Radatz, amber.radatz@wisc.edu

A few months ago, having most of the activities in the United States come to a screeching halt seemed like something that would only be in a movie. We are all living in this alternate reality together, and there are mountains of heartache, stress, and painful circumstances. I hope that in the not too distant future we can look back and find that we took opportunities to improve and grow and change our systems and ourselves for the better.

I called a farmer friend a few days ago, and after he answered, he said, 'And what can I do for you today?' This really struck me. Did he honestly believe I would be calling with a request when the world is falling apart? Yes, and he was ready to help. Because that is agriculture. Always at the ready. My answer was this: 'I am just calling to tell you I'm here for you, and I'm thinking of you.' He was surprised, and thankful.

While I won't have the chance to call each of you, please know that the same is true. Speaking for all of Discovery Farms, we are here for you, and we are thinking of you. As was in a recent letter from Joe Bragger, Wisconsin Farm Bureau President, "Everyone is dealing with the challenges of COVID-19 in a different way. Now is not the time to ignore feelings of hopelessness or helplessness. If you need help, call." There are many resources available, and we would be happy to help get you connected.

From our families to yours, take care.

-Amber Radatz

Discovery Farms Resources

We have facilitated several online events over the course of the last few months.

Visit the [events page](#) of our website to see the recordings!

Discovery Farms Webinar Series • Producer-Led Webinar Series • Northeast Regional Tile Webinar

Stay Connected



@DiscoveryFarms



Discovery Farms

Questions about this mailing?

erica.olson@wisc.edu

The Discovery Farms® Program, part of UW-Madison Division of Extension, is a farmer-led research and outreach program that conducts research on working farms located throughout Wisconsin, seeking to identify agriculture's impact on water quality.

An EEO/Affirmative Action employer, University of Wisconsin-Madison Division of Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. Request for reasonable accommodation for disabilities or limitations should be made prior to the date of the program or activity for which it is needed. Publications are available in alternative formats upon request. Please make such requests as early as possible by contacting the Discovery Farms office at 715-983-5668 so proper arrangements can be made.