

# The Blanchard River Demonstration Farms Project Final Report

2015-2020

## The Blanchard River Demonstration Farms Network

A partnership between the Ohio Farm Bureau Federation and the United States  
Department of Agriculture Natural Resources Conservation Service

### PROJECT OBJECTIVES:

Establish two to four demonstration farms in the Blanchard River Watershed

- Established 3 Demonstration Farms

Establish mechanism to provide for the transfer of technology and information on the effectiveness of conservation systems

- Developed website to transfer information

Create opportunities to test and demonstrate research results

- Reviewed 17 applications and approved 3 projects

Create and implement an information/outreach strategy

- Conducted 56 tours, presented at 45 conferences, and featured Demonstration Farms in interviews, videos, and articles

### PROJECT ACCOMPLISHMENTS:

#### The Demonstration Farmers

The Blanchard River Demonstration Farms Network consists of 3 farm families located within the Blanchard River watershed. When selecting these farms, the Demonstration Farm team met with local NRCS and SWCD staff to determine criteria for who would best fit this project. This criteria included farms that were receptive to opening their farms to the public, a willingness to share certain financial information about their farm and their ability to implement conservation practices beyond what they were doing already. The team met with dozens of farmers to discuss their interest in the project and a diverse set of producers was selected that gave the project the ability to showcase conservation across different scales of agricultural operations. It also gave the project

the ability to show the non-farming public that each farm in the state of Ohio is different and a one size fits all approach is not the best option to addressing Ohio's water quality challenges.

#### Stateler Family Farms

Stateler Family Farms is located in McComb in Hancock County and is owned and operated by Duane and Anthony Stateler and their families. The Stateres raise corn, soybeans and wheat and also have a 7,200 head wean-to-finish swine operation. When The Demonstration Farm project started, the Stateres farmed approximately 600 acres and have since grown the operation to over 1,100 acres today. The Stateres worked with NRCS staff to develop their conservation plan to address issues on their farm.

#### Practices implemented:

- 500 acres of cover crops per year
- 14 structures for water control
- 1 animal mortality composting facility with roof and heavy use protection area
- 6.4 acres of wetland
- 1,033 acres of nutrient management
  - Subsurface nutrient placement
  - Variable rate nutrient application
  - Prescription development per soil tests
  - Zone soil testing
- 0.12 acres of grassed waterways

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### Kurt Farms

Chris Kurt owns and operates Kurt Farms, which consists of approximately 470 acres of corn and soybeans in Dunkirk in Hardin County. Conservation practices that were already in place on Chris's farm were a two stage ditch and filter strips. These practices were implemented with assistance from the Hardin SWCD and The Nature Conservancy. The conservation plan developed by NRCS for Kurt Farms identified practices that would address his resource concerns.

#### *Practices implemented:*

- 3 structures for water control
- 10 acres of drainage water management
- 373 acres of cover crops
- 1,358 acres of nutrient management
  - Zone soil testing
  - Variable rate nutrient application
  - Prescription development per soil tests
- 208 acres of no-till
- 2 phosphorus removal beds
- 1 blind inlet
- Variable rate seeding

### Kellogg Farms

Bill and Shane Kellogg own and operate Kellogg Farms in Forest in Hardin County. They farm approximately 5,000 acres of corn and soybeans. Working with NRCS, a conservation plan was developed to address resource concerns on their farm.

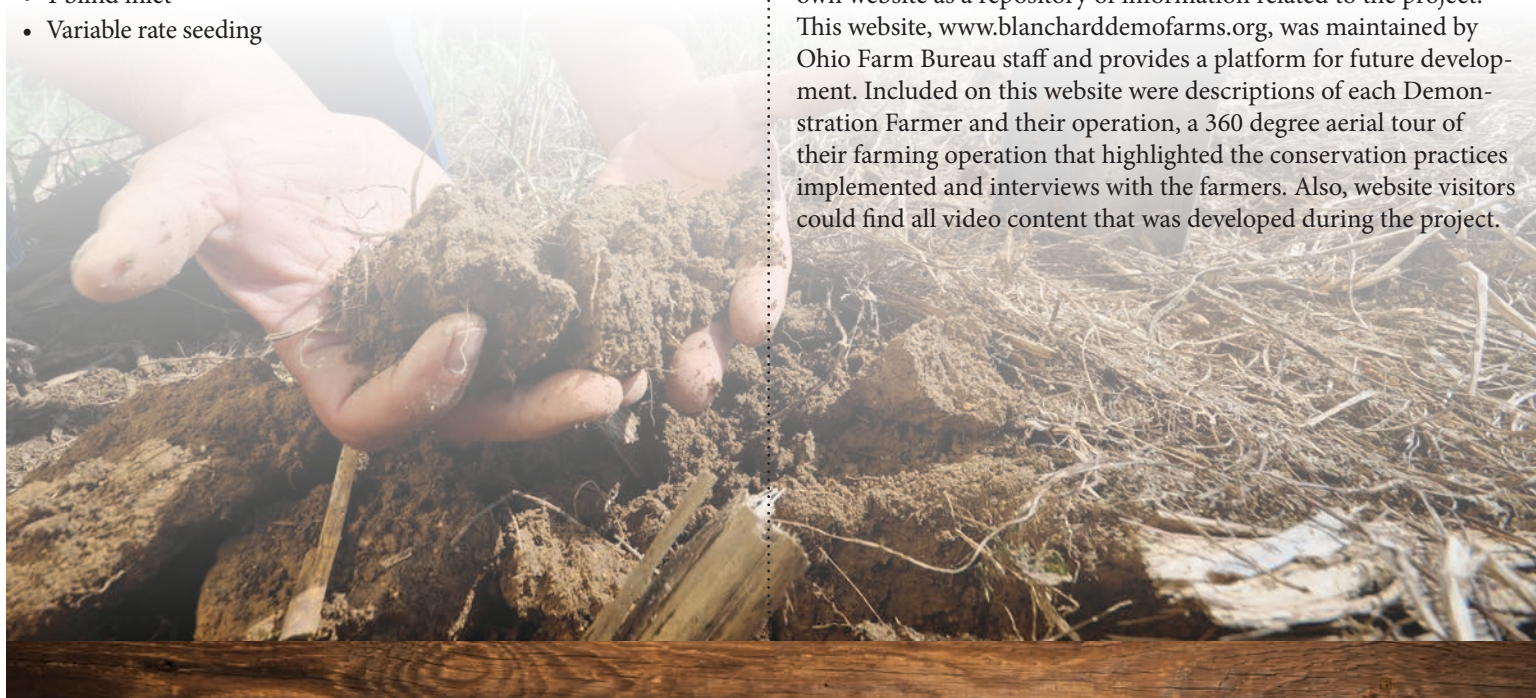
#### *Practices implemented:*

- 3,025 acres of cover crops
- 643 acres of no-till
- 4,950 acres of nutrient management
  - Subsurface nutrient placement
  - Variable rate nutrient application
  - Prescription development per soil tests
  - Grid soil testing
- 9 acres of grassed waterways
- 3 structures for water control



### Technology Transfer

The Blanchard River Demonstration Farms Network developed its own website as a repository of information related to the project. This website, [www.blancharddemofarms.org](http://www.blancharddemofarms.org), was maintained by Ohio Farm Bureau staff and provides a platform for future development. Included on this website were descriptions of each Demonstration Farmer and their operation, a 360 degree aerial tour of their farming operation that highlighted the conservation practices implemented and interviews with the farmers. Also, website visitors could find all video content that was developed during the project.







## Test and Demonstrate Research

A key principle of the Demonstration Farms is the ability to allow individuals and organizations to test and demonstrate their research to help improve water quality. A standardized format was developed to accept applications from interested parties. This allowed the team to gather more information about each applicant and to gauge the depth of their research project. The Demonstration Farm technical advisory committee thought it was important that the Demonstration Farm project serve as a place where more fully developed research could be showcased and supported. They did not view this project as the first step in the development process. In total, the technical advisory committee reviewed 17 research proposals that ranged from introducing beavers back into the habitat to additives sprayed on plants that help them be more productive. However, given the scope of this project, the technical advisory committee brought three of these proposals forward to the broader Advisory Committee for funding and approval which are listed below.

### Lower Cost Edge Of Field Monitoring

The Water Resources Management Group (WRMG), led by Dennis Busch, of Wisconsin, developed an alternative edge of field monitoring system. Edge of field monitoring is a critical component of the Demonstration Farms as well in the water quality space. Current technologies are expensive and labor intensive. This leads to a limited number of these structures out in the landscape. WRMG developed a system that they would like to deploy in vast quantities across the agricultural landscape, but needed a place to test the system to validate its results with existing, proven technologies. Due to the existing relationship with Dr. Kevin King of USDA-ARS, an agreement was made to place 10 of the new systems in northwest Ohio in conjunction with Dr. King's sites. This allowed WRMG to troubleshoot their technology and make improvements. They agreed to stay on the Stateler site longer than the original contract at no additional cost and have recently installed more user friendly equipment. This was based on the work done at the Demonstration Farms.

## Manure Separation Technology

Across western and northwestern Ohio, animal agriculture receives a lot of attention for how manure is applied to the land. As animal husbandry practices have changed and livestock are confined more, more liquid manure is collected. This presents challenges to managing that liquid and the nutrients in it. Ag Solutions is a community organization led by Theresa Dirksen that is focused on how to keep the livestock industry thriving while reducing its impact on the environment. Originally working specifically in Mercer County, Ohio, Ag Solutions teamed up with Applied Environmental Solutions to further test two technologies that are proven around the world to be effective at removing nutrients from effluent streams, but results were limited in animal manures. The Demonstration Farms agreed that this technology needed to be tested on a working farm to further develop the economic model to determine if it is cost feasible. The project was set up on the Stateler Demonstration Farm in 2019 and ran for three weeks. This project yielded favorable results, proving in the short term that manure nutrients could be separated out at a reasonable cost. The next step in this technology is to implement it on the farm scale for a long term study. This work is ongoing and The Demonstration Farms will serve as a partner if the right opportunity is presented.

## Saturated Buffer

Subsurface drainage tiles are prevalent in northwest Ohio and are key to successfully growing crops. However, drainage tiles are some of the largest contributors of nutrients off site as they move water through the soil profile and into a downstream body of water. An emerging best management practice is a saturated buffer. These buffer systems have been proven to be effective in the right situations, but are rare in the state of Ohio. Dr. Stephen Jacquemin with Wright State University and Theresa Dirksen with Ag Solutions proposed to study a newly installed saturated buffer intensively for 3 years to determine if it can be effective in Ohio soils. This project was installed in 2020 on a satellite demonstration farm in Mercer County, Ohio.



## Information and Outreach

The ability to share the work of the Demonstration Farms is of utmost importance. This information needs to be disseminated to different audiences and the depth of information sharing depends on the audience's level of knowledge of production agriculture. The three targeted audiences for the Demonstration Farms were farmers, the non-farming public which included students and policymakers. During the course of the initial 5 year Demonstration Farm contract, the project successfully reached each one of these groups. A multitude of methods were used to reach each audience including in-person tours of the demonstration farms, presentations at conferences and field days, and professional videos shared on various platforms and through our numerous partners. These videos highlighted the conservation practices implemented on the farms and their importance toward improving water quality. The Demonstration Farmers were also available to print and television media to share their story. For this work, the Demonstration Farms project was awarded the 2019 Ohio No-Till Council's Educator/Researcher of the Year. The project was also recognized by the American Farm Bureau with the New Horizons award in 2017 and 2018 which recognizes innovative and impact projects from state farm bureaus.

### Tours

Conducted 56 tours from September 2016 to September 2020, welcoming over 2,000 visitors to the Demonstration Farms. Highlights include:

#### *Policymakers*

- U.S. EPA Administrator Wheeler
- Ohio Department of Agriculture Director Dorothy Peland
- Western Lake Erie Basin Partnership
- NRCS State Technical Committee including USDA Under Secretary Bill Northey
- Senator Rob Portman
- Toledo Mayor Paula Hicks Hudson
- Congresswoman Marcy Kaptur
- Ohio House of Representatives and Ohio Senate Working Group on Water Quality

#### *Non-Farming Public*

- Lake Erie Foundation
- Toledo Metropolitan Area Council of Governments
- Advocates for a Clean Lake Erie
- Northwest Ohio Rotary
- Lake Erie Charter Boat Captains
- Two FFA Career Field Days
- Nationwide Insurance Staff

#### *Farmers and Farmer Related*

- Two Ohio Agribusiness Association Precision Agriculture Field Days
- Manure Spill Exercise Field Day
- Brookside Consultants
- Local Farmer Focused Event At Kellogg's

### Presentations

Presented at 45 conferences, field days and meetings across Ohio and other midwestern states to audiences of over 2,200. Highlights include:

- Conservation Tillage and Technology Conference
- Soil and Water Conservation Society Annual Meeting in Madison, Wisconsin
- International Association of Great Lakes Research Conference in Detroit, Michigan
- State of the Science Conference
- Toledo Metropolitan Area Council Of Governments
- All County Commissioners in the western Lake Erie basin

### Print, Television and Internet Media

The Blanchard River Demonstration Farms project and its farmers were featured in many interviews, videos and articles over the past 5 years. These include for agriculturally based entities such as the Ohio Country Journal and Successful Farming Magazine to environmentally based entities such as Civil Eats and Resilience. The project has also been featured on the television program "This American Land" which is aired nationwide on PBS stations. In an effort to expand the reach beyond who could actually be in-person at the Demonstration Farms, a series of videos was created and distributed. These videos featured the project manager walking viewers through the Demonstration Farm project and the science behind the conservation practices. This was distributed through the Ohio Farm Bureau's and USDA-NRCS Ohio's vast network of contacts as well as to any previous visitors of the Demonstration Farms. While it is difficult to calculate the reach of all these efforts, the ability of this project to be continually promoted and showcased through many different platforms shows the value of having such a project exist.

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[blancharddemofarms.org](http://blancharddemofarms.org)