



What is the UW – Discovery Farms Program?

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What is a Discovery Farm?

A Discovery Farm is an operating, commercial Wisconsin farm participating in an on-farm systems research/ evaluation/ demonstration project. The goal is to span the state's diverse soil types, physical and water characteristics, and livestock and cropping systems. The program has two types of projects, either core farms (farms that represent a farming system/setting that needs to be better understood) or special projects (which are much more targeted and shorter in duration). In addition to the cooperating farms, the program works with a systems farm at UW-Platteville and other researchers at UW-Madison to evaluate nutrient management strategies and practices aimed at reducing nonpoint source pollution while protecting farm profitability. A primary objective is to establish baseline data that can be used to determine environmental impacts of various farm management practices.

What are the goals of the Discovery Farms Program?

- Increase understanding of agricultural impacts on soil, water and air quality and work toward reducing adverse impacts.
- Integrate outreach and research programs with environmental management and regulatory efforts.
- Provide research-based information on agricultural production and natural resource management to public policymakers.
- Promote the economic viability of Wisconsin's agriculture across the state's diverse livestock and cropping systems.

How is oversight of the Discovery Farms Program organized?

The Discovery Farms Program emphasizes farmer input and direction. It is managed by a **Steering Committee** that identifies on-farm systems research/ evaluation/ demonstration project possibilities, selects projects for funding, and solicits commercial farm cooperators. It also provides guidance on the coordination and reporting of data and information generated. The committee, chaired by a producer, includes representatives from Wisconsin farms, agribusiness and environmental organizations. The program is also a member of the **Wisconsin Agricultural Stewardship Initiative**, which has a coordinating council made up of farmers, environmentalists, and other involved citizens. The voting members direct and coordinate the Pioneer Farm and Discovery Farms Program, and also advise on component research needs. Council members work with agency and university personnel, and the council coordinates fundraising efforts.

An On-Farm Project Team supports each producer who conducts a Discovery Farms project. Chaired by the farm cooperator, the team helps implement the project, monitor progress, collect and analyze data, and share results. The team includes neighboring farmers; fertilizer, feed and financial consultants; county and other local extension personnel; local representatives of NRCS and Land Conservation Departments; local Wisconsin Technical College System (WTCS) instructors; USGS personnel and others. Project teams receive support and advice from university and agency specialists.

Who selects and designs Discovery Farms projects?

Following input from farmers consultants and others, the Discovery Farms Steering Committee selects the most important and relevant projects. Then a Project Design Team develops details for each project, including required characteristics of participating farms, variable measurements, measurement protocols, data handling and analysis, and study length.

Who decides the Discovery Farms evaluation and demonstration project agenda?

Farmer input and direction at all levels ensure that this program addresses problems most relevant to producers.

Discovery Farms projects also respond to needs of county, state and federal agencies such as DNR, DATCP, and NRCS.

How are Discovery Farms projects conducted?

What makes this program unique is that monitoring is conducted (by the USGS in cooperation with the University) first to determine if an operation is having a negative or positive impact on the environment. All management practices are documented and we work with the producer to understand how and why they have adopted their farming system. If the farm has a negative impact on the environment, then we work with the producer, their consultants and a group of experts to identify best management practices which will fit the operation and monitor their effectiveness on working Wisconsin farms. Although cooperating farmers are compensated for the substantial effort and additional costs the project may require, every cooperator must agree to do what is necessary to successfully complete the project. The cooperating farmer is the key to project success, but he/she does not stand-alone. The farms receive considerable advice and information from the staff of the Discovery Farms Program, the USGS and staff from local/state and federal agencies.

How are project findings shared with Wisconsin farmers and others?

Results from a variety of farms are combined and interpreted to produce the best recommendations possible. The results are communicated on an annual basis at over one hundred agricultural meetings around the state. Special efforts are made to communicate findings at annual meetings and other gatherings of participating organizations. Findings are distributed through mass media and other routes that reach farmers and agribusinesses. The Discovery Farms Program and USGS also develop Extension bulletins, technical articles and scientific articles and publications. Field days are also held at cooperating Discovery Farms and at the Platteville systems farm to disseminate results.

How many farms are involved in the Program?

To date, we have established six core farms:

- One multi-species livestock operation with in-stream monitoring conducted in paired watershed basins;
- One dairy rotational grazing farm with a single field monitoring site evaluating an overwintered paddock;
- One beef feedlot/grain farm with three in-field sites monitoring individual field losses;
- One dairy CAFO with two in-field surface water and tile sites monitoring individual field losses;
- One organic rotational grazing dairy with three monitoring stations. Two stations are in-stream evaluating losses from the grazing system and the building sites; while the other station monitors multi-field losses;
- One swine operation that was selected prior to locating suitable water monitoring sites. After close evaluation, the farm did not have a good pair of basins, so we conducted an odor study and an energy study.

UW – Discovery Farms has also worked on the following special projects:

- Worked with four farms on the Wisconsin Buffer Initiative
- Northwest Shore of Lake Michigan Project – two farms
 - One with a monitoring station on an intermittent stream in a 262 acre watershed
 - One with three surface water stations and a tile line station evaluating watershed losses
- Five year project evaluating the potential losses to surface and groundwater from headland stack of poultry manure