

## CASE STUDY — SAXON HOMESTEAD FARMS

### Farm Smart™

U.S. Dairy Sustainability  
Commitment



#### Farm Overview

*“We strive for vibrant pastures, healthy soil and clean water,” said Robert Klessig, owner of Saxon Homestead Farms along with his wife Kathy; brother Karl Klessig and his wife Liz; sister Elise Klessig-Heimerl and her husband Jerry; and their families.*

*The family legacy began in 1848 when ancestors from Saxony, Germany, came to the rich lakeshore soils of Manitowoc County, Wisc. Today the dairy farm includes 850 acres of pastureland, 200 acres of cropland and 450 Holstein-Jersey crossbred cows and young stock. The farm produces approximately 10 million pounds of milk supplying the Saxon Homestead Creamery, established in 2007 to produce superior quality Artisan cheese.*

*The family's commitment to conservation and stewardship dates back five generations, but it got a big boost when fourth-generation Ed Klessig studied under Aldo Leopold at the University of Wisconsin-Madison in 1938. Leopold — considered by many to be the father of wildlife management — and his teachings made a lasting impression. Upon returning to the farm, Ed implemented “Leopold-inspired” practices, which included: installing contour strips; converting wood lots into hardwood maple; and preserving 240 acres by convincing lawmakers (who came to work one day to find a few of Ed's cows grazing in front of the State Capitol) to use existing rights-of-way for a new highway.*

*Keenly aware of the community, the Klessig family has a clear line of sight to the consumer. “Where their food comes from is extremely important to the consumer today,” said Karl, “and it is a priority for us to tell our story, one person at a time.”*

*This awareness guides their actions including: the family's annual barn dance, which raises thousands of dollars for a collaboration of local environmental organizations and the Wisconsin School for Beginning Dairy & Livestock Farmers; using technologies like the activity tag recording system, which takes cow care to a whole new level by analyzing her every step and chew; and moving to a rotational grazing system for its reduced carbon footprint.*

## Saxon Homestead Farms: Farm Smart for Proactive, Progressive, Pragmatic Management

Saxon Homestead Farm's grazed pastureland lies just three miles from Lake Michigan with the Centerville Creek flowing right through it. According to Karl Klessig, the farm encompasses three different biological environments — each requiring different farm management practices.

The Farm Smart™ tool was tested in some of the best and most diverse farmland in Wisconsin. The rich soil, which helps to make dairy farming in Wisconsin a \$59 billion industry, has characteristically high surface runoff as a result of the high clay content, and thus is prone to sediment and nutrient loss. “There are 50 million people living within 10 miles of the Great Lakes — the largest freshwater source on Earth. It is critically important for me to understand what I can do to keep those Great Lakes safe and clean,” Karl said.



To that end, the farm has nutrient and pasture management plans in place to document practices and strategies related to soil health, erosion, manure and runoff. In 2004, the farm was selected to participate in Wisconsin's Discovery Farms research program. The program focuses on water quality through extensive monitoring of both surface and tile drainage with respect to sediment and nutrient loss.

Before environmental considerations, the Farm Smart tool had to address economics. “Without a doubt, everything is based on the financial aspects of our operation,” Karl explained. “Each year, we go over the budget looking for opportunities to reduce the biggest expenses. Obviously, expenses have to be paid first; then we plan for capital improvements. Because we are so aware of the impact of our farm on the community, we try to prioritize things that impact the environment and the way the farm looks so we can be a successful part of the community.”

From the start, Karl recognized great potential in the Farm Smart tool: “It will enhance our capacity to tell our story and to improve our operation.” As he sees it, telling their story is a natural extension of the farm, and he emphasized the importance of authenticity. “My biggest fear is sharing bad information, and projects like this will help to get the right information,” he said.

## Key Learnings

### Data Quality and Collection

Karl was undaunted by the data collection effort, spending four to five hours of his own time collecting paperwork and information. He observed, however, that many different sources were required, and he had support from his crop consultant as well as one of the lead Farm Smart researchers, Marty Heller.

“There are a lot of questions, and it took patience on Marty’s part to interpret what was behind the question and help me figure out what was needed.”

While some estimating was required (for example, fuel consumption), Karl did not think it negatively affected results. Using producer data, however, to inform the recommendations appeared to be the best approach. He said it will be important for Farm Smart to strike the right balance in this regard.

*“Farmers and farm operations are all different, but what we have in common is that we are all responsible for caring for our resources.”*

While providing more farm-specific data puts a greater burden on the farmer, the results will be more relevant and credible. For example, the greenhouse gas emissions calculated for the family’s pasture-based farm were estimated to be higher than the national average, which was not believable to Karl.

The Farm Smart pilot test at Saxon Homestead Farms was completed with assistance from the University of Wisconsin’s Discovery Farms program. Discovery Farms provided a significant amount of data, which helped the Innovation Center to do the modeling. According to Karl, the involvement of a third-party university program also lends credibility to a project like this.

### Farm Smart Functionality

**A review of the results of the Farm Smart analysis led to a number of suggestions for improvement, including the following:**

1. **Goal-based and Solutions-oriented** — Farmers will expect well-defined goals from Farm Smart. Karl explained, “Farmers are goal-based, and our goals are fairly clear: taking care of our resources including the land, building, equipment and cattle.” Additionally, he said farmers, in general, seek to minimize their impact and be a positive influence on the community and the environment. “So if you make this tool as goal-oriented and solution-based as possible, I can hone in on the specific areas where my farm is not up to standard, and see how it will help me be a better, more profitable farmer in the long run,” he said.
2. **Keep it Simple** — Karl challenged Farm Smart to generate results that are simple enough to be delivered in an hour. “Many farmers would rather be out in the barn, on the tractor, in the pasture — for them, and for me, too, you need to make this as simple and straightforward as possible.” While this might seem daunting, Karl compared it with developing a business plan for his creamery. “Our consultants said, ‘I want your business plan to fit on the head of a pin — any bigger than that and your banker is going to fall asleep. They just want to know the bottom line.’” Likewise, farmers need to see Farm Smart’s bottom line results. To accomplish this, he advised keeping the behind-the-scenes modeling process out of the way, but accessible.
3. **Context** — Benchmarking is crucial for both context and clarity. Karl said each conclusion needs to show how the farm compares with regional and national averages. This information will help farmers to determine the areas of greatest opportunity. In some cases, they might even like to see how their farm compares to other, nonagricultural sources of impact. For example, this would be helpful in cases where farmers are singled-out for water quality impact, even in areas where manufacturing or other industries could be primary sources.
4. **Clarity** — The data in the report is rich and complex, but even greater clarity can be achieved by using graphic representations whenever possible. Also, Karl recommended that the report clearly designate which data is farm-specific versus a national average.
5. **Producer-friendly** — Farm Smart should use producer language throughout the tool. For example, Karl and the adviser from Discovery Farms suggested using tons or pounds per acre (a measure that farmers use to order fertilizer) rather than “units.” They also suggested making data relevant by using comparisons that put results in proper context for the farmer.
6. **Economic Impact** — Ultimately, the Farm Smart tool needs to help the farmer assess economic implications and make decisions. “This is just an interesting intellectual exercise if it doesn’t calculate economic impact,” Karl concluded.

## Perception of Value

During his first overview of Farm Smart, Karl quickly grasped the potential for the tool. He said it would “help me tell my story and improve my operation.”

Most important, he appreciated the amount of work required and the unique value that Farm Smart can deliver to farmers. “Your goals are what our goals are — to help farmers have long-term sustainable operations with as little impact on the environment as possible,” he said. “Farm Smart is hitting at the heart of the issue and trying to answer the difficult questions. I don’t think anybody else is looking at these building blocks and trying to make it applicable for the average farmer. This is a process that I hope many more farmers go through.”

**Triple Bottom Line** — Farm Smart needs to show financial, environmental and social impacts. “All of these are important if I am going to improve my farm. It has to show my farm’s limitations — where I can improve to safeguard the environment, wildlife and my resource base — but it has to show how I can do that profitably. That is what is going to drive the usage of this tool,” Karl said.

**Farm-specific and Local** — Farm Smart will help to strengthen farm-to-community relationships. Karl said the information in Farm Smart will give him the ability to tell his neighbors, customers and authorities what he is doing to be responsible. And this is, by nature, a local story. “I can only do what I can do on my own farm, and that is what is important for me.” For example, while it might be interesting to follow the dispersion of nutrients hundreds of miles downstream, what matters most to Karl is what he can do on his farm to maximize the quality of the water that is just three, 10 or 20 miles away.