



**U.S. Dairy
Sustainability Awards**
Innovation Center for U.S. Dairy®

2015 Awards Recipients

May 7, 2015 | Washington, DC

 **INNOVATION**
CENTER FOR U.S. DAIRY.
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OUTSTANDING DAIRY FARM SUSTAINABILITY

Dorrich Dairy Glenwood, Minnesota



Small solution has big impact on cow comfort, dairy success

The Volds, fourth-generation dairy farmers, are doing a lot of little things to ensure they can pass Dorrich Dairy, their 400-cow farm, to their children. One of those things could even be called tiny, but it has had a big impact.

Most summertime visitors to the Glenwood, Minnesota, farm notice there are hardly any flies buzzing around. What's their tiny secret? They are using wasps to fight flies.

Wasp larvae are placed in fly nests to consume fly pupae. Once the wasps hatch, they repeat the cycle as adults by planting their own larvae. Over time, through continuous monitoring and use of wasp larvae along with natural insecticides, Dorrich Dairy has maximized fly control while minimizing insecticide costs by 85 percent.

Reducing the number of flies is important to cow comfort, a key to producing more quality milk and keeping the farm viable.

"Cow health may be the one thing that keeps our business going, and that will help us with the next generation," says Suzanne Vold, who farms with her husband Brad, his brother Greg and Greg's wife Charity, and the Vold brothers' parents, Dorothy and Richard.

Using wasp larvae to control flies is just one part of an integrated pest management system, which they've used since 2009, that contributes to making their operation financially strong and environmentally sound.

"We've always had to depend on each other," says Richard Vold. "One generation has to depend on the next. We would not be here without my children's knowledge. And that was the same for my parents."

The Volds' innovative pest management system has resulted in:

- Dramatically reduced synthetic chemical use to control for flies
- 58 percent reduction in herbicides on corn silage
- 50 percent reduction in insecticides on soybeans
- 30 percent reduction in insecticides on alfalfa

85%

REDUCTION IN
INSECTICIDE COSTS

OUTSTANDING DAIRY FARM SUSTAINABILITY

Nobis Dairy Farms

St. Johns, Michigan



Dairy establishes new practices for cow comfort and sustainability

In 1974, Nobis Dairy Farms, a family partnership based in St. Johns, Michigan, wanted to switch to sand bedding to improve cow health. It didn't take long to recognize improvement in cow comfort as well. As the herd grew, the cleaning and separation of the sand from manure for potential recycling became a challenge. The change to sand bedding, however good for the cows, could have led to a series of sustainability challenges for the now 1,050-cow operation. Because cow comfort and health come first, brothers Ken and Larry Nobis took on the challenge with openness to trial and error.

"We understand that new, innovative sustainable practices are not one-size-fits-all. You have to take what you know, give it a try, then push and alter it to fit your needs," says Ken Nobis.

When the Nobis brothers implemented sand bedding, they experimented with gravel handling equipment but soon realized it wasn't a match for their dairy operation. They employed the best practices available with environmentally sound results and were open to advanced solutions that became available. In order to make it all work, they worked with Michigan State University through the years and McLanahan Corporation. Not willing to compromise with a less than ideal solution, the brothers continued with their trial and error.

McLanahan developed a closed-loop manure management system that effectively uses the water that is separated from the sand-laden manure and the runoff water captured from feed storage areas, buildings and other areas of the farm to eliminate excessive use of fresh water. The Nobis brothers were quick to install this system, which also maximizes nutrient management and reduces odors.

Today, the system they have in place not only solves the problem of sand-laden manure, but it also allows maximized nutrient management, recyclability and a decrease in the amount of fuel and labor needed. Sand separation is just one example of sustainable agriculture that the Nobis family practices. The recurring theme over the years on the farm addresses the three pillars of sustainability: economic, environmental and social.

Beyond their willingness to experiment, most of the practical on-farm sustainability measures employed by the Nobis brothers can be easily replicated on any dairy. Information about their sand-laden manure management and nutrient management systems is shared with others – the Nobis brothers see sharing as their way to contribute to the sustainability of the dairy industry.

Many projects add up to a sustainable operation for Nobis Dairy Farms:

- The farm collects 400,000 gallons of rainwater for every inch of rainfall.
- The Nobis brothers implemented 60 acres of buffer strips on their land to prevent erosion and for gathering feed.
- Every year, the brothers test every field on the farm for nutrient management purposes.

OUTSTANDING DAIRY FARM SUSTAINABILITY

Oregon Dairy Farm Lititz, Pennsylvania



Farm-to-fork experience put on display by dairy

There aren't many places where you can buy milk just yards away from the cows that made it. Oregon Dairy Farm, nestled in the low hills of Lancaster County, Pennsylvania, is such a place. Since 1952, the Hurst family has grown their 450-cow operation into a display of the farm-to-fork experience. Its ice cream parlor, grocery store and award-winning restaurant are at the heart of community life. Oregon Dairy also is stewarding the earth for the next generation with its methane digester and large-scale compost work. The Hursts are not just good hosts, they're good neighbors.

On warm days, kids play on the farm's playground next to a sign that explains its sustainable practices, which include composting food waste along with cow manure to produce a rich source of nutrients sold to gardeners, running solar panels on the grocery store's roof to provide 10 percent of the store's electricity needs, and an anaerobic digester that helps them capture methane gas from manure to make electricity and heat for hot water.

"We have an obligation to care for the land, air and water," says George Hurst, second-generation Oregon Dairy farmer. He works with his son Chad and his daughter and son-in-law Maria and Tim Forry to run the farm. "I like the approach the next generation has as they see the importance of sustainability."

Their commitment to sustainable farm practices has grown since touring the nearby Chesapeake Bay 20 years ago, where they saw firsthand how fishing was affected by poor water quality. Now, anyone who tours their farm can see what they've done to keep local waters clean. They practice no-till farming, improving soil conditions and reducing sediment runoff into creeks and streams. Native trees and perennials also are placed near the stream to reduce runoff and provide habitat for pollinators. The trees and perennials also cool the water for aquatic life.

The Hurst family and Oregon Dairy share their practices with a large audience – more than 15,000 visitors a year take tours to learn and experience where their food comes from.

Keeping Chesapeake Bay clean:

- The Hursts installed stream bank fencing as a preventive measure to avoid erosion and runoff, protecting the quality of water and aquatic life.
- The community is encouraged to learn about this effort during Family Farm Days events throughout the year.
- The Family Farm Days events welcome more than 15,000 visitors a year to the farm.

OUTSTANDING DAIRY FARM SUSTAINABILITY

Alliance Dairies

Trenton, Florida



Tradition and innovation guide pioneer, lead the industry

A third-generation dairy farmer is plowing the way forward for the dairy industry with sustainable practices and technology innovations. Alliance Dairies, a 6,000-cow dairy farm in Trenton, Florida, was founded in 1990 with a belief in “success through sustainability.” The dairy installed a DVO mixed plug flow methane digester that was specifically designed for a freestall barn flush system. Alliance Dairies also was the first dairy in northern Florida to receive a permit from the Department of Environmental Protection (DEP) for its sustainable wastewater management practices. These firsts are only glimpses into the accomplishments of the farm.

From the beginning, Alliance Dairies worked to be more sustainable. The dairy is situated in the highly sensitive Suwannee River Basin and Manatee Springs region, making dairying a challenge and water protection a priority. The dairy partnered with the Suwannee River Management District’s water conservation program to ensure Alliance Dairies was doing what it could to help.

In 2011, Alliance Dairies wanted to implement a digester but knew its barn system would require special engineering. The team challenged a typical digester design to be used with their flush system, unwilling to give up on the possibility of environmental and financial advances. A digester began powering the farm on a continuous basis in 2013. It now supplies more than 70 percent of the dairy’s daily electric needs – equivalent to powering 425 homes year-round. Not only is the digester providing electricity for the farm and bedding for the cows, it also generates energy for the community’s use and touts a reduction in odor.

“The energy savings are only a portion of the benefits we’ve seen from the digester, and after approximately five years, those savings alone will pay for the entire project,” says Jan Henderson, chief financial officer at Alliance Dairies.

Now, Alliance Dairies is looking to take its sustainable advances beyond its own farm with partnerships that will help others innovate. Recognized as a County Alliance for Responsible Environmental Stewardship (CARES) farm by the Florida Farm Bureau Federation, Alliance Dairies is going beyond U.S. borders. It is currently working with partners to build a dairy in Lobatse, Botswana, and train local Botswana managers in dairy science at Alliance Dairies.

Water management is a top priority at Alliance Dairies:

- The only fresh water used on the farm is for cooling, drinking and cleaning. All other water is recycled.
- A computer “base station” provides the ability to turn the pivot irrigation on and off in response to weather conditions.

OUTSTANDING DAIRY PROCESSING & MANUFACTURING SUSTAINABILITY

Hilmar Cheese Company

Hilmar, California



Responsible water use and reclamation showcased by cheesemaker

At Hilmar Cheese Company's facilities in Hilmar, California, and Dalhart, Texas, water conservation is part of the cheesemaking process. The company makes cheese for brands distributed throughout the world, but it's not satisfied simply to help feed the planet. It wants to help preserve it, too.

That's no small task because the company makes about 2 million pounds of cheese each day. This requires a lot of milk, and about 87 percent of milk is water. With the help of new technologies, the facility is able to recover almost 100 percent of water from incoming milk. Then, water is treated and used up to three times for processes such as crop irrigation and landscaping.

Water reclamation is just one part of a comprehensive sustainability effort at Hilmar Cheese Company. Its new headquarters and innovation center was the first dairy building in the United States to receive LEED Platinum® certification, a standard established by the U.S. Green Building Council for environmentally sound design and construction. Inside this breakthrough building, you'll find use of solar energy, natural and occupancy lighting, and recycling efforts for everyday items such as office paper and computer equipment.

Anyone can see firsthand how cheese is made at Hilmar Cheese Company, thanks to its California visitor center, which attracts tens of thousands of people each year. In fact, visitor interest in the environment has prompted the company to issue an annual sustainability report on its website. Daily tours of hundreds of schoolchildren expose new generations to dairy's role in a sustainable food cycle.

"The owners are very passionate about connecting with the next generation as well as our current consumers," says Denise Skidmore, director of education and public relations for the 12 farm families who founded the company 31 years ago. "We want kids to know we make a product that's good for them, and we do it in a sustainable way."

The Hilmar LEED Platinum® headquarters features:

- A heating, ventilation and air conditioning system with a closed-loop water cooling process using one of the food processing water reclamation ponds
- A building design maximizing use of natural lighting
- Solar panels providing 25 percent of overall building energy demand

OUTSTANDING ACHIEVEMENT IN RESOURCE STEWARDSHIP

Freund's Farm East Canaan, Connecticut



Creating a path for the next generation

For dairy farmers Ben and Matt Freund, their cows have become a source of economic and environmental efficiency.

While milk provides their steady income, they've also managed to make the most of nutrient-rich manure. With the support of neighbors, land-grant colleges and state and federal agencies, they've refined a process to export those nutrients.

It's in the form of CowPots®, a line of biodegradable gardening containers made of composted manure, and it has become an important part of their family's operation.

CowPots has grown into a business that supplements their dairy's income and helps their East Canaan, Connecticut, community manage manure sustainably. Tens of millions of CowPots have been manufactured in a modest building on Freund's Farm, the family's 275-cow operation, then sold in Canada, Europe and the United States.

The Friends didn't set out to create a novel product with a catchy name. They wanted to find alternative uses for their dairy's manure in order to reduce phosphorous buildup in soils that could threaten nearby rivers. They also needed to raise their farm's income – and they've since done that and more.

Now, Freund's Farm is using CowPots to bring attention to the advantages of sustainability. The Friends aren't just reducing their own carbon footprint, they're using manure from neighboring farms to keep up with demand for feeding the farm's digester. The farm also is producing the equivalent of 100 percent of its own electricity needs with a solar system that has zero carbon impact.

CowPots® is now a stand-alone business for the Friends, boasting:

- 11 full-time employees
- 15 seasonal personnel
- \$2 million invested back into the local community
- A facility built and maintained by local vendors
- International exposure thanks to social media

\$2 MILLION
INVESTED BACK INTO
THE LOCAL COMMUNITY

OUTSTANDING ACHIEVEMENT IN RESOURCE STEWARDSHIP

T-Bar Dairy and White Gold Dairy

Porterville, California



Dairy proves conservation tillage is possible in dry climates

Tom Barcellos is not one to shy away from a challenge. In fact, if you tell him it can't be done, he's likely to show you otherwise. So it's no surprise that the dairy farmer was the first in drought-ridden Central Valley, California, to successfully develop conservation tillage. The method of growing crops is a challenge to maintain where water is scarce, but Barcellos was up for the challenge.

"It started out of necessity," Barcellos says of his quest to use conservation tillage. "Water – that's the lifeblood of everything. You don't have water, you don't have anything."

Barcellos, who heads the 1,400-cow T-Bar Dairy, also had doubters. Practicing conservation tillage in the Central Valley was unheard of because of the dry climate, but he got to work by altering machinery and collaborating with University of California, Davis, and the Natural Resources Conservation Service. After trial and error, he found a combination of no-till and strip-till methods worked. Not only was he able to manage for water scarcity, the new method also allowed him to dramatically reduce the operation's use of chemicals and fuel while experiencing fewer dust particles in the air.

Protecting the land, air and water is a challenge matched only by Barcellos' future-minded approach to farming. "I have to look forward and work towards improvements," he says. Barcellos is constantly tinkering with machinery and farm operations to make things more efficient.

Now that he's cracked the code on conservation tillage in the Central Valley, he's helping other farmers do it, too. "I've never told anybody, 'No.' I know that people helped me when I started, and I want to pass that on."

Tom Barcellos' approach to conservation tillage:

- Improved soil quality and water use
- Reduced greenhouse gas emissions by the equivalent of taking 184 cars off the road
- Increased his profit margin by 20 percent as the result of reduced labor, equipment maintenance, chemical, fuel and water costs

OUTSTANDING ACHIEVEMENT IN COMMUNITY PARTNERSHIPS

HP Hood LLC and CleanWorld Sacramento, California



Partners develop recipe for success

When you open the doors at one of HP Hood LLC's dairy processing facilities, you'll find a shiny, stainless steel world that's designed for energy efficiency, water conservation and, above all, quality and safety.

HP Hood's focus on quality and safety inevitably results in a small portion of their product not making it to shelves. As in any manufacturing process, some products are bound to fall, have a cap that isn't sealed tightly enough, or be collected for routine quality and safety testing. These products can't be sold and must be thrown out.

Building on its 160-year history of social responsibility, HP Hood's sustainability team sets goals, shares best practices and pursues improvement opportunities in their 14 plants across the country. So, in 2012, the leadership team at HP Hood's Sacramento plant set out to find a sustainable solution for their 35 tons a week of waste.

They found their solution by partnering with local technology company CleanWorld, which shared their goal to repurpose what would otherwise be waste. The waste is collected and combined with food waste from dozens of local restaurants and retailers in a nearby biodigester, which converts it into valuable products for their urban and agricultural neighbors. These products include renewable fuel to power public and private fleets of trucks in Sacramento, rich liquid fertilizer used to nourish nearby farms in the Sacramento and Central valleys, and renewable energy to power the biodigester as well as local waste management facilities.

The process is unique because of the variety of ingredients that can be used by the digester. Like master chefs, CleanWorld's scientists constantly refine the digester's recipes to return as much value as possible to their community. Even product packaging, such as milk jugs and cardboard boxes, are part of the recipe, thus eliminating a second waste stream.

Their Sacramento neighbors also benefit from a reduction in greenhouse gas emissions by 3,276 metric tons and water use by 1.8 million gallons annually.

HP Hood LLC's 35 tons of waste per week now helps:

- Reduce Sacramento's greenhouse gas emissions by 3,276 metric tons
- Reduce Sacramento's water use by 1.8 million gallons annually
- Save HP Hood \$2.6 million

OUTSTANDING ACHIEVEMENT IN COMMUNITY PARTNERSHIPS

Northern Illinois Food Bank and Prairie Farms Dairy Geneva, Illinois



Simple solutions for the greater good

While milk is one of the most nutritious items requested by food bank clients, it's rarely donated. Milk needs to be kept cold and safe, and has a relatively short shelf life compared with other donated items. Some food pantries purchase milk at retail stores, but that presents another set of challenges. As a result, many families have to do without.

"We know milk is the top food source for calcium, vitamin D, potassium and other essential nutrients," says Kelly Brasseur, Northern Illinois Food Bank's registered dietitian. "One of our key priorities is to provide our neighbors in need with nutritious food like milk that may not be affordable for them. This way they can best maximize what limited budgets they have while still getting the nutrients they need to thrive and lead productive lives."

Northern Illinois Food Bank and Prairie Farms Dairy created the Milk 2 My Plate program to get around the challenges of providing fresh milk to families. So far, it has brought more than 194,000 gallons of milk to families through 34 food pantries. It serves as a model for food banks across the country:

- Food pantries in the Northern Illinois Food Bank network purchase low-fat gallons of milk directly from Prairie Farms Dairy at a fixed cost.
- Prairie Farms Dairy gains a consistent, year-round customer and is able to deliver fresh milk directly to each agency through its existing ordering system and delivery routes.
- To cover costs, food pantries in the network secure donations from corporate and individual supporters, such as FORWARD (Fighting Obesity, Reaching Healthy Weight Among Residents of DuPage). This local coalition sees the Milk 2 My Plate program as a way to help achieve its goal of reversing the obesity trend.
- With Prairie Farms in charge of storage and distribution, Northern Illinois Food Bank eliminates food safety concerns that might arise if the milk first must be routed through its warehouse.

"Partnering with Northern Illinois Food Bank to implement the Milk 2 My Plate program exemplifies our commitment to being good neighbors and making sure fresh, delicious and nutritious milk is available for families to enjoy every single day," says Geary Crom, general manager for Prairie Farms. "Giving back is an important part of our heritage that began over 75 years ago, and we are committed to making a difference in our communities."

Triple-bottom-line:

- The food bank's Community Nutrition and Food Distribution Center is one of the first to receive LEED Gold® certification.
- Through the Milk 2 My Plate program, more than 3.1 million servings of milk have been made available to families, so far.
- The food bank has an extensive recycling program and is planning the rollout of a composting operation.

Share These Stories!

What's the secret to sustainability? According to research conducted on behalf of the Innovation Center for U.S. Dairy®, sustainability isn't about the size, age or location of a dairy operation. It's the management practices that make the difference. The most sustainable aspects of the dairy industry come from the way we run our businesses every day. And as more people are interested in learning where their food comes from, telling our stories of good stewardship helps to ensure that they can continue to feel good about choosing their favorite dairy foods and beverages.

Visit USDairy.com/Sustainability/Awards to learn more about how others are implementing sustainable practices and help spread the word by sharing these successes and yours with customers, communities and consumers.

