



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

**2020 WINNERS**

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# SPONSORS

The strength of the U.S. Dairy Sustainability Awards has been the unprecedented collaboration with leaders and experts from within and outside the dairy industry. The Innovation Center for U.S. Dairy® is pleased to recognize the following organizations for their support of the 2020 awards program:



# CHANGING THE EQUATION FOR GOOD BUSINESS

The ninth annual U.S. Dairy Sustainability Awards recognize and honor outstanding dairy farms, businesses and partnerships for socially responsible, economically viable and environmentally sound practices. These practices, large and small, are steps that add up to promote the health and well-being of consumers, communities, cows, employees, the planet and business.

This year's recipients show how innovation and improvements sparked by one farm, one person or one organization can have a ripple effect that goes well beyond their farm gate or front door.

Winners are recognized in the following categories:

- Outstanding Dairy Farm Sustainability
- Outstanding Supply Chain Collaboration
- Outstanding Community Impact
- Outstanding Dairy Processing and Manufacturing

An independent panel of judges, which included leading experts on the economic and environmental issues and opportunities of today's dairy industry, evaluated nominations on the following criteria:

- Program or project results as measured by triple-bottom-line success: economic, environmental and social
- Evidence of shared learning, innovation and improvement
- Potential for adoption by other dairy farms and businesses

*For more information, visit [USDairy.com/Awards](https://www.usdairy.com/awards)*

# OUTSTANDING DAIRY PROCESSING AND MANUFACTURING

## LEPRINO FOODS CO.

Greeley, Colorado Plant



### This Dairy Facility Is a Model of Environmental Performance

Leprino Foods is committed to sustainability, and its Greeley, Colo. processing facility exemplifies this commitment. Built on the site of an abandoned sugar-processing factory, the plant has emerged as one of the most technologically advanced and environmentally friendly cheese and dairy ingredient manufacturing facilities in the world. Leprino has invested in a suite of replicable projects that improved the facility's environmental performance while simultaneously reducing costs, enhancing worker safety and benefiting local communities.



They installed a \$22 million combined heat and power system that generates 12 megawatts of electricity from two natural gas turbines, increasing the plant's energy efficiency and lowering costs. These turbines provide approximately 75 % of the plant's power needs while capturing the residual heat to create steam for plant processes. Colorado's electricity grid is carbon-intensive, so the turbines produce cleaner energy that is projected to lower Leprino's companywide greenhouse gas (GHG) footprint by 10 %. Leprino projects a five-year payback on its investment and a financial savings of almost \$4.5 million a year once the turbines are paid off.

Leprino also installed water purification and reclamation equipment. Cow's milk is about 87% water, and this technology enables Leprino to capture most of this water after cheesemaking and whey processing for cleaning and other uses throughout the facility. Specifically, the purification technology yields about 300,000 gallons of water for reuse per day, reducing the facility's dependence on fresh water.



However, before releasing that water to the environment, Leprino sends it to its wastewater treatment facility, where the water undergoes physical-chemical primary treatment, followed by an advanced activated sludge process before it is finally filtered, disinfected and cooled prior to discharge. This process produces residual liquids and waste activated sludge, both high in carbon content. These residuals are an excellent feedstock for the facility's anaerobic digester. The microorganisms within the digester convert a significant amount of these residuals into renewable biogas, eliminating 100% of the liquid residual hauling volume and reducing the waste active sludge hauling volume by 40%. This ultimately lowers the environmental impact of Leprino's waste transportation needs and saves an estimated \$250,000 annually.

#### Leprino's investment in sustainability projects at the Greeley facility has resulted in:

- An additional 600,000 gallons of clean water returned to the local river daily, enough to sustain approximately 2,000 households.
- Energy savings from LED lighting to light nearly 500 homes for one year
- 12 megawatts of onsite electricity generation resulting in a projected 10 % companywide GHG footprint reduction.

## OUTSTANDING DAIRY FARM SUSTAINABILITY

# ROSY-LANE HOLSTEINS

Watertown, Wisconsin



### Healthy Cows, Environment Are Focus of Wisconsin Dairy

Healthy cows and a healthy planet go hand in hand every day at Wisconsin's Rosy-Lane Holsteins dairy.

The farm's emphasis on cow health started with incorporating cattle genetic technologies more than 25 years ago, breeding cows that live longer and are less susceptible to disease and illness. Genetics also helped the farm work toward its goal of producing 1.7 pounds of milk for every 1 pound of feed for the milking herd. The average U.S. dairy farm attains 1.5, according to Cornell University.

Another benefit from the genetics program is the farm has not had to use antibiotics on cows in the milking herd for more than seven years. Rarely is a veterinarian called to treat a sick animal among the 1,000 cows at the Watertown, Wis., dairy.

"It's really no different than a family of humans that live a long, healthy life," said Lloyd Holterman, who owns the farm along with wife Daphne and partners Tim Strobel and Jordan Matthews. "Good genetics allows us to have a healthy family of cows that has the ability to ward off illness and disease. The breeding decisions we made have paid off."

The dairy's commitment to sustainability is ingrained in the farm's everyday philosophy with its 20 employees.

"We're strong on setting protocols about the environment, our cows and our people and then making sure everyone is in alignment," Daphne Holterman said. "The staff helps us create a circle of input so we can be more proactive and not just average. We strive to be well above average every day."

The farm's environmental stewardship is evident through several examples. Water is used three different ways before it is mixed with cow manure and applied to fields to nourish alfalfa and corn crops that feed the cows. The farm added the infrastructure to store and process corn at the farm, minimizing waste and the need for it to be trucked in from outside the dairy.



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## OUTSTANDING COMMUNITY IMPACT

### SUSTAINABLE CONSERVATION, NETAFIM, DE JAGER & MCREE DAIRIES, WESTERN UNITED DAIRIES

California



### California Dairy Community Collaborates to Help Conserve Water

Water is never wasted on California dairies. After it is used the first time—for cows to drink, to provide cooling mist on a warm summer day, or to wash cows and milk barns—the water doesn't "go down the drain." Instead it's captured in holding ponds and is mixed with dairy manure collected from the cleaning of barn floors. This mixture, rich with plant nutrients such as nitrogen, phosphorus and potassium, thanks to the addition of dairy manure, is used to irrigate and fertilize forage crops for cows. This process not only re-uses water, but recycles manure as a natural crop nutrient and soil builder, reducing the need for commercial fertilizer.



To get these valuable plant nutrients to their crops, many California dairies rely on flood irrigation, where water is applied to the soil surface and distributed throughout a crop using gravity. However, applying manure nutrients efficiently and uniformly through flood irrigation can be difficult, with the potential for plant nutrients to move past a crop's rootzone and into groundwater supplies, which can impact water quality. Improving the efficiency and uniformity of irrigation using dairy effluent has therefore been identified by California dairy industry leaders as an opportunity to enhance dairy operations while achieving multiple environmental benefits.

To pursue this goal, beginning in 2014, Sustainable Conservation (SusCon), Netafim and De Jager Dairy partnered to develop and test a subsurface drip irrigation (SDI) system that uses manure effluent instead of commercial fertilizer. The manure SDI system turned out to be a breakthrough solution, improving irrigation water use efficiency while also improving the nutrient use efficiency of dairy manure. The system delivers the plant nutrients found in dairy manure beneath the soil surface, closer to a crop's rootzone and at a time when nutrients are needed for crop growth and health.



"Less water is applied, drinking water is protected from nitrate contamination and fewer soil nitrous oxide emissions are emitted," said Ryan Flaherty, Director of Business Partnerships at Sustainable Conservation. "Cumulatively, this is a huge environmental and health benefit for all Californians, including dairies and surrounding communities."

- Irrigation-related greenhouse gas emissions were reduced 70% through the SDI system, according to research conducted by the University of California.
- Water savings last season at De Jager Farms totaled 11.5 inches for its silage crop and yields were in the 32.5 ton per acre range. McRee Dairy used 5.5 inches less water on a silage crop that yielded 35 tons per acre.

## OUTSTANDING DAIRY FARM SUSTAINABILITY

# THREEMILE CANYON FARMS

Boardman, Oregon



## How Oregon's Largest Dairy Maintains Its Sustainable Operations

Threemile Canyon Farms, Oregon's largest dairy, demonstrates how growing crops and milking cows can complement one another in a closed-loop system, resulting in little to no waste. Quality management, no matter the size of the farm, leads to success with sustainability.

"Size has nothing to do with how good you are, how good you are for the environment, how good you are for the community," said Marty Myers, general manager and part owner for Threemile.

A fifth-generation Oregonian, Myers has spent the last 20 years focused on lessening environmental impacts, setting high animal-care standards, supporting the local community and economy, and ensuring his employees' and families' well-being.

Threemile's 70,000 Jersey cows are located at the center of the 93,000-acre farm. Practicing precision agriculture, the farm grows crops for livestock and human consumption, including organic blueberries, onions, carrots, potatoes and corn.

Sustainability is at the forefront of their farming practices, with a focus on the closed-loop system so the dairy and crops sustain and improve one another. "We find what traditionally would be considered waste and redeploy that waste to beneficial use," says Myers. Byproducts from the mint harvest and nearby food-processing plants provide nutritious feed for the cows. Manure becomes natural fertilizer.

Speaking of manure, Threemile recently upgraded its methane digester from generating electricity to producing Renewable Natural Gas. This is just one of many examples demonstrating how the farm evolves.

Many top managers and staff started their farm careers in the robust internship program, which recruits from the community. "If you want to grow and stay in business, you need the people to make it happen," says Myers.

Since 2015, Marty Myers has served on Oregon's Board of Agriculture, adding industry representation, export markets knowledge and farming practices insights. He also serves on the Oregon Dairy Nutrition Council and Potatoes USA boards. His expertise has helped address water, drought and economic development issues in rural Oregon.

Threemile Canyon Farms is a shining example of improvement, growth, and prosperity for Oregon's dairy industry.



- The methane digester sequesters about 136,000 metric tons of carbon emissions every year.
- Threemile donates 7,000 pounds of ground beef to Farmers Ending Hunger every month (84,000 pounds annually).
- Threemile recently upgraded its methane digester from generating electricity to producing renewable natural gas which reduces fuel emissions by 80% compared to diesel fuel. This sequesters about 136,000 metric tons of CO<sup>2</sup> a year.

# OUTSTANDING SUPPLY CHAIN COLLABORATION

## TURKEY HILL CLEAN WATER PARTNERSHIP

Pennsylvania



### Pennsylvania Farmers Are the Chesapeake Bay's Clean-up Crew

With its drainage basin covering parts of six states, the Chesapeake Bay is one very important body of water. Sadly, runoff and pollution have contributed to an overabundance of algae and a loss of aquatic vegetation which has depleted the habitat for the fish and animals of the Bay.

Half of the land area of Pennsylvania drains into the Chesapeake Bay, with the Susquehanna River providing half of the total freshwater flow to the bay. This means Pennsylvania, along with five other states, is on the hook to restore the water quality of the Chesapeake Bay.

Turkey Hill Dairy, based in Conestoga, Penn., took the charge to heart and is connecting dairy farmers with grant money to make water quality-minded farm improvements. The reward for the farmers is more money for their milk.

The Turkey Hill Clean Water Partnership was created between the Alliance for the Chesapeake Bay and the Maryland & Virginia Milk Producers Cooperative, which buys from farmers including Turkey Hill, to bring together local farms and the private and public sectors to help dairy farmers develop and adopt conservation plans to better manage soil and water on their farms.

Dairy farmers continually look to improve their farming operations, increase efficiencies and minimize impacts, however these kinds of improvements can often come with large price tags and given the industry's recent economic struggles, they were challenged to fund environmental solutions.

So, the Bay partnership raised more than \$2 million to date in grant money to help those farmers pay for the projects. Solutions like modern housing for cows, manure storage solutions, tree planting, stream fencing, cover crops, conservation tillage and nutrient management will help positively impact local waterways. To date, ninety-five percent of the 177 farms serving Turkey Hill now have conservation and nutrient management plans in development.

It's a win for the farmers, win for the partnership and most importantly, a win for the ecosystem of the Chesapeake Bay.



- The partnership has secured funding of over 2 million dollars in grants from Natural Resources Conservation Services and the National Fish and Wildlife Federation for farmers to implement effective conservation plans.
- To date, the Partnership has achieved pollutant load reductions totaling:
  - 421,327.5 lbs/yr of nitrogen
  - 7,198.3 lbs/yr of phosphorus
  - 2,920.9 tons/yr of sediment

# OUTSTANDING DAIRY FARM SUSTAINABILITY

## TWIN BIRCH DAIRY

Skaneateles, New York



### Twin Birch Dairy Combines Dairy Industry and Environmental Leadership

Dirk Young understood from the beginning that a large part of his business strategy at Twin Birch Dairy, which is nestled near two sensitive watersheds that supply drinking water to 400,000 people in nearby towns and cities, meant building and maintaining good relationships with his neighbors.

Initially, odor reduction was the reason Twin Birch became among the first farms in New York to commission an anaerobic digester in 2003 (upgraded in 2012). Separated digester solids provide cow bedding, and liquids are transported to a storage site via an underground pipeline. Drag hoses spread liquid manure over 2,700 acres without the use of wheeled equipment. "We have no heavy equipment on the roads. It's very efficient, and our neighbors don't smell it when we're spreading," Young says.



Young practices nutrient management, precision-feeding, no-till and strip cropping. He uses cover crops on nearly all his acreage, installed a silage leachate collection and treatment system, and has branched into yield monitoring and narrow-row crops for forages. He's exploring ways to better adapt to climate change and the increased frequency and ferocity of storms.

Concerned about deteriorating conditions in one of New York's Finger Lakes, an environmental group sought to collect data that might identify nutrient runoff hotspots in the lake watershed. Young readily agreed to allow the group to monitor water quality on multiple sites on his farm. The study found that water quality immediately downstream of Twin Birch Dairy was generally equal to, if not slightly better, than the upstream water quality. To Young, this data is an important validation of his on-farm management efforts. The partnership is now being used as a model for similar efforts throughout the watershed.



"We have nothing to hide. If there's a problem, I want to know and do something about it." For Young, losing nutrients means reduced farm efficiency and lost dollars in a competitive dairy environment, plus it's his responsibility to be an environmental steward.

- The anaerobic digester generates 225 kilowatts of electricity per hour, or enough to power 170 homes for a day. This produces enough energy to power all the barns, houses and satellite facilities at Twin Birch. The digester has resulted in multiple farm savings, including an estimated \$130,000 annual reduction in electricity and \$10,000 annual reduction in water heating costs.
- Young speaks at conservation district and industry-affiliated events and served on the committee that led to the creation of New York's Agricultural Environmental Management program. He has hosted researchers, environmental groups, elected officials, political candidates and the next generation of farmers.

## 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 ensure they can continue to feel good about choosing their favorite dairy foods and beverages.

Visit [USDairy.com/Awards](https://USDairy.com/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.

