

## Redefining Dairy

*By Jeff Reinke, Editorial Director, Chem.Info*

As someone who grew up in the rolling corn and hay fields of southeastern WI, I'll proudly testify to the sentiment that permeates throughout this area. Combining a strong work ethic with a common sense approach has resulted in a collective that embraces both traditional and new ideas. It's an increasingly rare place where the genuine notion of not only understanding the right way of doing things, but implementing them in a corresponding fashion stimulates a straightforward, simplified approach that has less to do with flashy procedures and more to do with positive outcomes.

This combination of ideologies is alive and well at the Crave Brothers cheese factory and dairy farm in Waterloo, WI. Admittedly, there's nothing uncommon about a farmer looking to capitalize on the fresh milk his herd supplies by producing smaller batches of high-quality cheese. However, closer examination of the products the Crave Brothers produce, along with the overall course their operations have consistently followed, offers perspective on how new technologies have allowed for advancing their core values.



Before terms like “sustainability” and “farmstead” were being pounded into the corporate-speak vocabulary, George Crave, along with his brothers Charles, Thomas and Mark, were putting these concepts into practice. This commitment begins with the way they feed and care for their heard of Holsteins, and their efforts in preserving soil fertility. However, since 2002 these practices have been taken to another level.

**Farmstead in action** After 25 years as a dairy farmer, George Crave was looking

## Redefining Dairy

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to figure out what was next. It was time to either increase the size of his herd, be content with where the dairy farm business was, or venture into something new. After a fair amount of soul searching and market research, Crave decided to take advantage of the farm's high-quality, Grade A milk, and began producing cheese.

"It was easier to walk away because the farm was doing well and my brothers supported my decision. A cheese factory made the most sense, but then we had to figure out what kind of cheese to make," recalls Crave with a smile. "In addition to identifying the right products, our research reinforced that the biggest thing we had in our favor was the high-quality milk coming from our herd."



Before long, a newly constructed 6,000 square foot factory was producing mascarpone and fresh mozzarella. This was followed by Crave Brothers' Farmer's Rope String Cheese, oaxaca (a Mexican-style string cheese) and their Les Frères (French for The Brothers) French-style signature cheese. "We figured there were quite a few other dairy farmers doing cheddar and related products," explains Crave. "Everybody knows how to make those types of products, so we wanted to do something different. Plus, fresh mozzarella, even though it's somewhat seasonal, demands even greater processing cleanliness and has a shorter shelf life, is going through a growth trend right now. Cheddar will always be there."

A cornerstone of the dairy farm's operation has always been conserving the land and paying greater attention to proper management of the herd. These would prove to be tremendous benefits in starting the cheese business as well. "Going back to the research we did before building the factory, we realized that people were becoming much more concerned about where their food was coming from.

"One of our main focuses has always been taking care of our cows. This means providing them with the best corn, alfalfa and soybean feed - most of which we grow ourselves here on the farm. Plus, we're 100 percent BGH free. So we already had access to the most important ingredient and were very confident of its quality. Unlike some of the concerns that have centered on recent recalls, it's my name on the mailbox and we know everything about our product's point of origin."

So in concert with the new factory construction in 2002, Crave built a 320'

## Redefining Dairy

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underground pipeline running directly from the milking parlor across the road. It transports over 20,000 gallons of milk each day from their 1,000 cows. Representing 80 percent of the milk produced on the farm, it's pasteurized on site, only hours after collection. The remainder is sold to Dean Foods. "The milk from our Holsteins is sweet, fresh and of the highest quality," offers Debbie Crave – George's wife and vice president of Crave Brothers Farmstead Cheese.

One of this new endeavor's biggest assets would be Debbie's previous experience in the marketing departments of the Milk Marketing Board and Wisconsin Department of Agriculture. When it came to other aspects of cheese processing, she notes that "there was no real crossover in terms of past experience. We had to learn a lot, especially with state and private audits, but we've just been disciplined."

Although the Crave Brothers-labeled offerings came first, the quality of the milk and end-products, as well as the farmstead approach, has produced significant private label and food service opportunities as the company has matured. So what was once a five-person operation now employs 45 in a facility that underwent a 20,000 square foot expansion in January of this year. Crave, a licensed cheesemaker, states that they'll be adding ricotta to their menu shortly, as they continue to invest in new equipment to better handle the production flow.

The products chosen by Crave all share a quick production cycle, which benefits from the abundant supply of fresh milk and ensures greater overall flavor. However, these products also have a short shelf life in common, which means production is based on a made-to-order basis. This presents some logistical challenges in satisfying a growing customer base that ranges from New York to California and as far south as Florida.

"We don't have a warehouse," explains Crave. "So that makes distribution important. We learned early on that the cheapest trucker isn't the way to go. Our cheeses are hand-made and hand-packed on a made-to-order basis. We need to make sure they get to our customers as soon as possible without any compromise to their quality."

It's this attention to quality and customer needs that have enabled their cheese offerings to stand out from the crowd. Similarly, the Crave's processing operation offers a unique answer to a critical issue facing many food manufacturers.

**Coming full circle** Whether it's the scope of their dairy farming capabilities or cheese production, the Crave's success seems well tethered to a stake of hard work, discipline and the right approach. Perhaps the strongest representation of their commitment to environmental considerations is the two acres dedicated to a computer-controlled anaerobic (without oxygen) digester.

The digester stems from a partnership between Crave Brothers and Clear Horizon Energy, which was spearheaded by Charlie Crave. Clear Horizon feeds the digester by purchasing manure from the farm, as well as the whey permeate and wastewater from the cheese factory. Basically, these materials are fed to a holding tank where they are treated and stored. It is then heated to 105 degrees, creating

## Redefining Dairy

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methane gas that fuels a huge combustion engine. In turn, this engine powers a turbine that creates electricity.

The power generated is sold back to the utility company, at an output great enough to power the farm (which includes facilities for over 2,000 total animals, their feed and the equipment necessary to manage over 3,000 acres of crops), the 25,000+ square foot cheese factory and 300 additional homes. The digester, which has doubled in size since beginning operation in January of 2007, takes approximately 60,000 gallons a day of waste in producing 633 kilowatts of electricity. Some of the remaining biomass is converted into EnerGro potting soil and animal bedding, which Clear Horizon also sells.

What's not used as potting soil goes back to the farm fields as fertilizer. "We not only benefit from manure disposal, but from the nutrient management this process provides," explains Crave. "The spent manure flows from the holding tanks and is separated into phosphorous and potassium-rich solids that are sold for potting soil.

"The remaining liquid is nitrogen rich and used as fertilizer for out fields. So when it goes back into the soil we use to grow the crops that feed our animals, the nitrogen we need stays put, but those other elements that can burn out the soil are no longer a factor."

It's a chain of reactions that are independent in their application, but obviously dependent upon each other in achieving the desired result - pure feed for cows in producing better tasting milk used in creating premium cheese products. From the feed, to the milk, to the processed cheese, to the energy source that powers their businesses, the Crave Brothers have never lost focus of their core values and the new technology that helps preserve it.

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