



# Celebrating 25 years of dairy research, education and innovation

**In the last 25 years, the National Dairy Foods Research Center program has worked with industry to turn knowledge and expertise into multiple successes.**

**A**lexander Graham Bell said, “Great discoveries and improvements invariably involve the cooperation of many minds.” Bell’s words ring true for the contributions the National Dairy Foods Research Centers (and the many individuals associated with them) have made to the dairy industry.

Since America’s dairy farmers established the research program 25 years ago through the dairy checkoff program, these resources have served as a uniting hub, yielding insights and innovations that have made innumerable contributions to the dairy industry.

The research center program also has served as a confidential resource. Centers are equipped with the facilities and technical experts needed to help dairy food and beverage companies bring new or improved products to market. The six university-affiliated centers located across the United States (see [usdairy.com/DairyResearchInstitute/Pages/ResearchCenters.aspx](http://usdairy.com/DairyResearchInstitute/Pages/ResearchCenters.aspx)) work with industry to provide dairy product and ingredient research, as well as unique technical resources to accelerate innovation in dairy-based products to help increase demand.

The longstanding commitment by dairy farmers and the dairy industry to sound, scientific research, through the National Dairy Foods Research Center program, is supported in part by the Dairy Research Institute. Founded in 1987, the program was developed to meet the need for ongoing training, research and education in dairy product processing.

Each of the centers is equipped with pilot and commercial-scale lab equipment and staffed with specialty-area experts working with R&D teams from companies around the world. The centers also serve as a teaching resource, helping companies to develop new products or make improvements to existing products using dairy ingredients, and helping suppliers improve upon their dairy ingredients through processing and other methods.

## Doubling cheese consumption

Improvements in natural cheeses have been made possible through education and training and have played a role in almost doubling consumer consumption over the last 20 years, according to the International Dairy Food Association’s “Dairy Facts, 2011.” The centers have developed technology to create unique and value-added cheeses with higher protein, lower sodium, probiotics and other ingredients.

The growth in specialty/artisan cheese can be partially attributed to technical training and short courses at the centers and helping start-ups and existing companies take their products to the next level. Case in point: nearly 60% of the winners at the 2012 World Cheese Contest attended short course training at the Wisconsin Center for Dairy Research.

Process improvements for cheeses have led to greater use with pizzas for improved stretch and melt. The centers are helping meet consumer demand for shredded, natural and processed cheese by continuously improving them and helping companies improve their product lines.

## Adding value, finding new uses

“Twenty-five years ago, whey was a byproduct of cheese manufacture and had very little value,” said Lloyd Metzger, director of the Midwest Dairy Foods Research Center and dairy science professor at South Dakota State University. “Thanks to research on whey processing and functionality by the Dairy Foods Research Centers in partnership with the dairy industry, today whey is a profitable value-added ingredient that makes a major contribution to the value of milk.”

Researchers uncovered its valuable use as a high-quality protein and now recognize its functionality and ease of use in a variety of products. Whey continues to increase in popularity; its use in foods and beverages has more than doubled over the last 20 years, according to “Dairy Facts, 2011.”

Product research and nutrition research to uncover benefits in sports nutrition and healthy aging have resulted in the use of whey protein in a wide variety of food and beverage products, prompting industry analysts to predict that this ingredient is on the edge of mass commercialization, according to a Sloan TrendSense report. Research also has helped evolve and expand the use of permeate. Centers have helped identify permeate’s ability to replace salt in formulations. Center research has been able to reduce the amount of added salt in foods by 30% to 75%.

## Meeting consumer needs

Product research and industry innovation helped dairy companies develop flavored milk that meets the National School Lunch and Breakfast Program’s requirements. Today, the average flavored milk has 134 calories — just 31 more than white milk — the result of new formulations which reduced added sugars in flavored milk by 38%.

Research, application and technical training on different processes and ingredients support the manufacturing growth of Greek yogurt, smoothies and other innovative cultured dairy products with higher protein concentrations.

Over the past quarter century, the National Dairy Foods Research Center program has worked with industry to turn knowledge and expertise into collective successes. I am excited to see how this resource continues to transform our industry. I encourage companies to reach out to our centers to help solve formulation challenges or make the next great discovery. ■

*Bill Graves is the senior vice president of the Dairy Research Institute, Rosemont, Ill., [www.usdairy.com/DairyResearchInstitute](http://www.usdairy.com/DairyResearchInstitute).*

*Dairy Foods seeks essays from dairy processors. Contact [carperj@dairyfoods.com](mailto:carperj@dairyfoods.com). Read more opinions from guest bloggers at [dairyfoods.com](http://dairyfoods.com)*