

Dazzle Them with Dairy Science



Jim Carper

As children headed back to classrooms over the last four weeks, the annual (and predictable) chorus of “no flavored milk in schools” was heard across the land. Every year, a few more school districts take the bait dangled by the anti-sugar crowd and ban the sale of flavored milk with added sugars while allowing orange juice (which contains even more sugar). The key words and hot buttons in this debate include: children, government intrusion, parental rights, personal responsibility, sugar, obesity and nutrition.

Individual dairy processors and trade and marketing associations join the battle, but even they can't always win. You would think that having science on your side would turn decisions in your favor, but that is not always the case, especially when the issue is this emotionally charged.

Hard facts provided by scientific inquiry are vital to the health of dairy processors and producers. Peer-reviewed scientific studies show that nutrient-dense flavored milk is not associated with adverse effects on body weight. Moreover, flavored (and plain) milk contributes to positive nutrient intake in children.

Among the institutions promulgating scientific inquiry is the Dairy Research Institute, Rosemont, Ill., which observed its first anniversary in July. Established under the leadership of America's dairy farmers through Dairy Management Inc. (the organization that manages the producer checkoff program), DRI has a raft of accomplishments to celebrate. Among them:

- Studies of milk fat showing it does not increase the risk of heart disease
- Creating the scientific support for marketing claims about dairy and whey protein
- Identifying best practices in sodium reduction in cheese
- Developing nutritionally enhanced yogurt and other cultured dairy foods
- Showing the true carbon footprint of the U.S. dairy industry (as opposed to the cattle industry)

Greg Miller, president of the Dairy Research Institute and a *Dairy Foods* nutrition columnist, told me that the non-profit DRI manages the investment in dairy research by coordi-

inating and focusing the activities of other research outfits, such as the six nations in the International Dairy Research Consortium for Nutrition and Health. Other partners are the Center for Advanced Energy Studies and the National Dairy Foods Research Center Program. By avoiding duplication, you don't have five separate studies about milk fat and heart health, for example. This way, research dollars are used more effectively.

DRI works with organizations you might not think of as dairy customers. NASA, for instance, seeks protein solutions to the loss of bone mass in its astronauts in space. The U.S. Department of Defense is concerned about obesity, body mass and traveler's diarrhea among its personnel. DRI seeks a dairy solution.

DRI's research efforts confirmed the importance of dairy in a healthy diet. When the 2010 Dietary Guidelines for Americans were released in January, the recommendations for children ages 4-8 were to increase their daily dairy intake from 2 to 2.5 servings. The new DGA also recognized dairy as an important source of nutrients for those with lactose intolerance. The guidelines reported “moderate evidence indicates that intake of milk and milk products are associated with a reduced risk for cardiovascular disease and type 2 diabetes.” You can thank DRI.

These conclusions are ones that dairy processors can take to the bank, or at least to their advertising agencies who can then develop relevant marketing messages. Dairy processors might also be interested in an Institute for Ingredient Processing project at South Dakota State University, Brookings, S.D. An industrial-size dryer was installed that will filter out whey before it's processed. This is a big deal because previous research has been conducted only with bench-size dryers. The industrial dryer will provide “real world” data. DRI is funding the staffing and research at SDSU.

Other dairy ingredient research activities found that whey protein, not soy protein, leads to lower body weight, body fat and waist circumference compared to carbohydrates. DRI is involved in whey protein sensory and application research that seeks to expand the use of whey ingredients by improving quality and performance and to facilitate increased

use of co-products by providing economically viable opportunities.

By improving whey quality and performance, processors can develop new food and beverage products. For example, meal replacement beverages can now be formulated with 10% protein due to improved heat stability, compared to the previous formula of up to 5%. The impact of improved whey flavor can also be seen in the recent launches of new beverages, smoothies and bars formulated with higher protein concentrations, Miller says.

Greek yogurt is one of the hottest dairy foods in recent years. Dairy centers, with DRI funding, have provided technical insights to various processors on the use of different processes and ingredients toward manufacturing of Greek yogurt, keifer and frozen smoothies with higher proteins. With growing consumer interest in simple and natural ingredient lines, researchers have recently shown that whey protein can be used as a thickener to replace starches and gums.

Dairy processors cannot go it alone. They need trade associations to press their interests in Washington. They rely on flavor houses for product development. And they depend on research organizations to do the hard science that results in better ingredients, evidence of nutritional value in dairy foods and better processing techniques. DRI is one of those institutions that assist dairy processors as well as producers.

To keep up with the research, subscribe to DRI's monthly e-newsletter, Dairy Research Insights. It provides the technical insights on key nutrition, product and sustainability research. See its website (www.USDairy.com/DairyResearchInstitute) for additional resources, including a guide to nutrition claims, a guide to resources of the National Dairy Foods Research Centers and Application Labs and a resource library.

Congratulations to the Dairy Research Institute for not only reaching its first anniversary, but also for furthering the cause of dairy foods. ■

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