

FUNCTIONAL FOODS TASK FORCE REPORT

Spring 2013

BACKGROUND OF THE TASK FORCE

Dairy Council of California recently held its 14th Functional Foods Task Force meeting. The task force is a group convened annually to track changes in the external environment that affect the dairy industry. This 15-member group is composed of industry experts from around the country, representing research and development, academia, marketing, education and communications. Discussions ensue around nutrition and dairy research, public policy, regulations and consumer perceptions that impact dairy. Strategies are outlined that Dairy Council of California and the industry can pursue to optimize dairy's positioning in a rapidly changing environment.

Priority areas addressed at the recent meeting included:

- ✦ The opportunity to message around milk nutrients such as potassium and protein, particularly the benefits of milk's high-quality protein to all age groups.
- ✦ The increasing use and demand for whey protein applications and the burgeoning export market.
- ✦ The changing perception around dietary fat—particularly saturated fat—and heart disease risk, and opportunities this will present to the industry.
- ✦ Growing positive research on prebiotics and probiotics, countered by regulatory hurdles restricting label claims.
- ✦ The interest in and impact of foods and nutrients on gut microbiota and how this could be the key to health and disease.
- ✦ The emerging research on the health benefits of dairy's bioactive proteins and oligosaccharides.
- ✦ Consumers' quest for foods touted as being local, organic, green, sustainable, pure and natural—and how this impacts the dairy industry.
- ✦ The increasing negativity around sugars in the food supply, and public health efforts to reduce sugar intake that are challenging the industry to reformulate products such as flavored milks and yogurts.
- ✦ Growing consumer concerns about animal welfare, antibiotic usage on farms and hormones in milk, and how to counter these negative messages.
- ✦ The continued vilification of processed foods that contain fats, sugars, salt and other “negative” components, and the need for balanced messages about the benefits of food processing.



Opportunities for dairy within the protein arena abound.

The task force noted that positive research on protein continues to be a major driver of food choices as consumers look for phrases such as “good source of protein” or “excellent source of protein” on product labels. Benefits range from muscle building and sports performance to weight management, improved cognition and heart-disease prevention. Competition in this arena includes soy, egg, wheat, pea, potato and rice proteins. However, dairy can legitimately be touted as being one of the highest-quality protein sources with a complete amino acid profile and high bioavailability. Greek yogurt is an example of protein popularity, as it boasts about twice the protein content of regular yogurt. Milk itself, often overlooked as a high-protein food, contains eight grams of protein per cup and can be marketed as a good source of protein.



The task force reported that demand for whey protein, both in the United States and internationally, is growing rapidly, as whey protein is a popular ingredient in snacks, bars, healthy cookies and cereals. Sports enthusiasts and the infant formula market are driving this trend. There is concern, however, that the whey protein supply will hit a ceiling and that vegetable proteins will fill the unmet demand.

The Food and Agriculture Organization of the United Nations is considering a new method of assessing protein quality, called the Digestible Indispensable Amino Acid Score (DIAAS). This method would position dairy as superior to plant sources because of dairy protein’s high bioavailability and ideal ratio of essential amino acids. *The task force encouraged the industry to push for adoption of this new method.*

Dairy could help manage diabetes and metabolic syndrome.

The increasing rate of overweight and obesity in the United States is leading to a surging incidence in cardiometabolic diseases, and research is looking into origins, ramifications and diet remedies for this group of diseases. It is estimated that one in three U.S. adults has metabolic syndrome (MetS)—a cluster of risk factors that includes abnormal lipid levels, high blood pressure, overweight and high fasting glucose levels. Rapid, positive changes in metabolic health occur through healthy eating, not just through weight loss, indicating the powerful effect diet has on health.

Dairy consumption has long been associated with lower rates of obesity and MetS in observational studies; however, the mechanism is evasive. Researchers have not been able to link specific components of dairy to a protective role in these diseases, and it is now thought that the complete dairy matrix—rather than specific nutrients—may provide the benefits. In addition, dairy may simply be a marker for a healthy lifestyle.

Research continues to elucidate dairy’s protective role on metabolic parameters such as liver function and ability to control blood sugar levels. There is evidence that branched-chain amino acids, found in a high ratio in dairy protein, may optimize metabolic health. *Regular consumption of dairy foods can be encouraged as part of a long-term, healthy diet that optimizes health and reduces risk of chronic debilitating disease.*



OPPORTUNITIES FOR DAIRY PRODUCTS

Gut microbiota could be a primary predictor of health and disease.

New research is looking into the impact diet has on gut microbiota—the colonization of the gut by different types of healthy bacteria. Gut microbiota may be a key predictor of health and disease, both short- and long-term, as it represents an important barrier between the external environment and the internal body. Research in animals suggests that consumption of certain probiotics can affect mood, skin and hair health, weight management, inflammation and risk factors for diseases such as diabetes and heart disease.

Studies of probiotics indicate that effects are strain-specific, making it difficult for food manufacturers to tout specific benefits. However, the task force noted the bulk of research in this area is positive and may be reaching a point where the industry can make generalized claims about the “group” benefits of probiotics in a product, and/or extrapolate to other strains and populations given the overall strength of the research. In the meantime, *the task force encourages the industry to use structure-function claims to educate consumers about general benefits of consuming probiotics on a regular basis.*

THREATS TO DAIRY PRODUCTS

Increase in dairy-elimination diets compromises health.

The task force noted a movement away from animal-based diets that include not just meat but dairy foods as well. This is driven by vegetarian lifestyles, as well as people taking advice from friends, co-workers and the Internet to avoid milk and dairy foods for various reasons. Misinformation about antibiotics, hormones and animal welfare also contribute to the move away from milk. Even health professionals are often quick to advise patients to eliminate certain food groups, like dairy, to lose weight and manage intestinal issues, without considering the nutritional consequences of doing so.

Unfortunately, these habits can lead to severe nutritional deficiencies. Milk and milk products contribute more than one-half of calcium and vitamin D consumed in the United States, up to one-third of protein and about one-quarter of riboflavin and vitamin B12. Dairy-deficient diets are linked to chronic diseases such as osteoporosis, hypertension, colon cancer and heart disease. *The task force recognized an urgent need to re-educate health professionals and consumers about the nutritional contributions of milk and dairy foods and the consequences of dairy-devoid diets.*

The task force also noted the great variety of dairy products in the marketplace, making it easy to incorporate milk and dairy foods in the diet. *There is a need for the industry to differentiate consumer segments and product placement based on specific health benefits.*



2013 Task Force Industry and Research Representatives

California Dairy Research Foundation
Cargill, Inc.
California Polytechnic State University, Dairy Products Technology Center
Dairy and Food Communications, Inc.
Dairy & Food Culture Technologies
Davisco Foods International, Inc.
Foods for Health Institute
Glanbia Nutritionals
Global Dairy Platform
Hilmar Cheese Company
International Dairy Foods Association
Land O'Lakes, Inc.
University of California at Davis, Food Science & Technology Department

STRATEGIES IDENTIFIED FOR THE INDUSTRY

- ✦ **Ride the “protein wave”** by highlighting the high-quality protein inherent in milk and milk products and the importance of all age groups consuming adequate protein at each eating occasion.
- ✦ **Label products and educate consumers about milk’s nutrients beyond calcium**—such as protein, potassium, magnesium and vitamin D.
- ✦ **Emphasize that dairy foods belong in well-balanced vegetarian diets.** Manage the movement toward plant-based diets by educating health professionals and consumers about the nutritional contributions of milk and milk products.
- ✦ **Consider technology applications and venues to reach adolescent and young adult consumers,** who often eliminate or reduce dairy in their diets. Benefits such as optimal growth, enhanced exercise performance, increased muscle mass and weight management resonate with these age groups.
- ✦ **Continue to develop and market products to specific segments of the population.** Consumers are looking for “just for me” products—and the variety of products within the dairy group are well suited for such segmentation.
- ✦ **Maintain the market hold on dairy as the perfect carrier for prebiotics and probiotics.** Use substantiated structure-function claims to educate about the benefits as well as the “group” benefits of probiotics that are not necessarily strain-specific.
- ✦ **Message around the satiety effects of dairy products** as a way to manage weight and appetite.
- ✦ **Support research on dairy’s role in preventing diabetes and MetS**—two diseases that are predicted to become public health crises in the next decade.
- ✦ **Support research on bioactive milk protein, oligosaccharides and other dairy components** in promoting a healthy gut microbiota and strengthened immune system.
- ✦ To minimize industry-funded research bias, **register trials appropriately when funding research and insist on rigorous study designs.** Improve credibility by giving publication rights to the researchers and encouraging transparency in funding sources.
- ✦ **Use third-party experts to increase credibility** in social media and other communication venues with health professionals and consumers.

DAIRY COUNCIL OF CALIFORNIA

Since 1919, Dairy Council of California has been an innovator in nutrition education. Dairy Council of California’s mission is to educate consumers to make food choices for optimal health that match individual values. We encourage nutrient-rich foods as part of healthy eating patterns, in which milk and milk products are a cornerstone.