

## Dairy Research Institute Reviews Top 2011 Dairy Research

Date: 17 Jan 2012

Type: Nutrition & Health News

Source: Nutrition Horizon

Sector: Dairy & Dairy Ingredients

Summary: “The role of dairy intake in reducing the prevalence of health conditions like obesity, metabolic syndrome and heart disease is central to our research initiatives,” said Gregory Miller, Ph.D., president of the Dairy Research Institute. “This year saw several advances in this work, as more and more research identifies the positive effects dairy can have on a number of health conditions.”

Jan 17 2012 --- In light of staggering health statistics approximately one third of Americans are considered obese, heart disease continues to be the leading cause of death among men and women nationwide and nearly 26 million Americans have diabetes — significant nutrition research findings in 2011 supported the role of dairy in helping reduce the risk for several chronic diseases. The Dairy Research Institute, established under the leadership of America’s dairy farmers through the dairy checkoff program, remains committed to research advancing the wellness of Americans as part of its focus on dairy nutrition, product and sustainability research.

“The role of dairy intake in reducing the prevalence of health conditions like obesity, metabolic syndrome and heart disease is central to our research initiatives,” said Gregory Miller, Ph.D., president of the Dairy Research Institute. “This year saw several advances in this work, as more and more research identifies the positive effects dairy can have on a number of health conditions.”

According to the Dairy Research Institute, the top dairy nutrition and product research insights from 2011 include:

**Metabolic Syndrome and Diabetes:** Dairy consumption was associated with lower incidence of metabolic syndrome, a condition which increases the risk of cardiovascular disease, and type 2 diabetes.

- According to a research review, key dairy nutrients including calcium, magnesium and potassium may help regulate one or more elements of metabolic syndrome, including, blood pressure, fasting glucose levels and body composition.[4]

- A 14 percent reduction in type 2 diabetes risk among the population with the highest consumption of dairy products, when compared with a population segment with the lowest intakes, was found in a systematic review and meta-analysis of seven prospective studies. In fact, it was found that increasing dairy intake by just 1 serving per day was associated with a 6 percent reduced risk for type 2 diabetes.[5]

- According to the Data from the Epidemiological Study on the Insulin Resistance Syndrome (DESIR study) the consumption of dairy products, other than cheese, and the calcium density of the diet were associated with reduced incidence of type 2 diabetes and impaired fasting glucose.[6]

Cardiovascular Disease: As reported in the 2010 Dietary Guidelines for Americans, moderate evidence indicates that intake of milk and milk products is associated with a reduced risk of cardiovascular disease and type 2 diabetes.[7]

- The calcium present in dairy may play a role in reducing fat absorption and may help maintain good cholesterol while minimizing any increase in bad cholesterol.[8]

- A systematic review and meta-analysis found that dairy food consumption was associated with a reduced risk of elevated blood pressure.[9]

Chocolate Milk and Exercise Recovery: Drinking chocolate milk after a workout was found to boost improvements in aerobic fitness and body composition and benefit muscle recovery and subsequent exercise performance.

- Researchers from the University of Texas - Austin followed 32, healthy, untrained participants in a 4½ week aerobic training program. They found that drinking chocolate milk immediately and one hour following exercise improved body composition, measured by the combination of increased lean muscle and decreased body fat, when compared to those drinking a carbohydrate beverage. It also stimulated greater improvements in aerobic fitness compared to those drinking either a carbohydrate beverage or water after the workouts.[10]

Quality and performance improvements for whey protein: Significant advances were made to improve the quality and performance of whey protein, allowing for expanded use in food and beverage products.

- The impact of improved whey flavor can be seen in the recent launches of new beverages, smoothies and bars formulated with higher protein concentrations. For example, due to improved heat stability, meal replacement beverages can now be formulated with 10 percent protein, compared to previous formulas with 5 percent.

**Developing and expanding uses for dairy co-products:** Product research has explored and uncovered new uses for dairy co-products to provide ingredient solutions for the food and beverage industry to help address consumer demand.

- For example, research refined the development and use of whey permeates, also known as whey solids, as a salt replacement option to help the food and beverage industries meet the sodium reduction challenge. This research has converted what was a dairy processing byproduct into a growth opportunity for the dairy industry, also helping many formulators eliminate or reduce the amount of salt in their products while maintaining consumer flavor expectations. In addition to its focus on dairy nutrition and product research, the Dairy Research Institute continued to make advances in the area of sustainability, researching ways to deliver to consumers dairy products that are produced responsibly and in an environmentally friendly way.
- The Cow of the Future Research Priorities white paper, released in 2011, identified focus areas for reducing enteric methane emissions through improvements in dairy cow nutrition, genetics and animal health. Enteric emissions are a significant contributor to the industry's carbon footprint and innovations in this area will help the industry achieve its voluntary goal to reduce the carbon footprint of fluid milk by 25% by 2020.
- A partnership was established with Idaho's Center for Advanced Energy Studies (CAES) to develop a national research program to advance the science and best management practices of renewable energy and life cycle analysis of dairy systems and processes.

**Looking into 2012:** Nutrition research concentrating on dairy as a part of wellness solutions In line with the 2010 Dietary Guidelines for Americans recommendation to include low-fat and fat-free milk and milk products as part of a healthy diet, the Dairy Research Institute will continue to focus on areas of research uncovering valuable nutrition insights for the dairy, food and beverage industries, specifically focused on metabolic health.

“We've learned that people who are better dairy consumers tend to have lower weight, lower body fat, and lower rates of heart disease,” Miller said. “In 2012, we will continue to focus on areas of metabolic health. The Centers for Disease Control has sounded the alarm that type 2 diabetes is on its way to becoming the next big health care epidemic that will break the health care bank. Our research is beginning to show that dairy is not part of the problem, but may be part of the solution to the diabetes epidemic and we will continue to explore dairy's role in lowering the risk for this disease.”

#### **Product research exploring new dairy ingredients, improving processes**

In addition, dairy product research will look to improve upon or create new dairy processes and ingredients to help meet the needs of the dairy, food and beverage industries.

“A tremendous demand throughout the world for dairy protein will drive us to help improve consistency and quality for dairy powders and proteins, so that we can be more competitive globally and further accelerate already strong export momentum,” said Bill Graves, senior vice president of product research at Dairy Research Institute. “Milk powders offer a tremendous opportunity for global expansion.”

#### **Sustainability research advancing environmental stewardship**

Three studies are underway to establish baseline measures of the environmental impact of milk, cheese, and packaging. “Results will provide the industry with guidance on where to focus measurement and innovation efforts so that we can continue to provide consumers with the

products they want, when and where they want them,” said Miller.

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“This is a very exciting time for the dairy industry,” said Kevin Ponticelli, chairman of the board of directors of the Dairy Research Institute, and senior executive vice president of Dairy Management Inc. “The Dairy Research Institute and America’s dairy farmers are dedicated to working with industry to generate and communicate the technical and development insights in nutrition, product and sustainability research that will build long term dairy demand.”

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