



Research Highlights 2016 – 2017

Dairy Farmers of Canada, in partnership with Agriculture and Agri-Food Canada and the Canadian Dairy Commission, is supporting 10 research projects in human nutrition and health via the Dairy Research Cluster. DFC is also supporting an additional 16 projects through its annual NESAC competition and two projects in the Dairy Research Consortium (Dairy Management Inc., Dairy Australia, Dutch Dairy Association, CNIEL, and Danish Dairy Research Foundation).



Expected Outcomes of Ongoing Research:

- Provide scientific data on the impact of regular fat dairy products on cardiovascular risk factors and type 2 diabetes with implications for dietary guidelines related to higher fat dairy products;
- Investigate the role of dairy products in decreasing the risk of diabetes in vulnerable populations;
- Provide science-based evidence related to the role of dairy product consumption on satiety, glycemic control, type 2 diabetes, cardiometabolic diseases, obesity, bone and gut health - this information will support the importance of dairy product consumption on overall health;
- Evaluate the benefits of dairy intake for bone health in pregnant women and their offspring;
- Determine whether consuming the recommended amounts of milk and dairy products during adolescence will help bones grow stronger;
- Supply scientific data for novel food formulations using dairy products and milk components for better health;
- Supply scientific data that may be useful for health claims related to satiety, postprandial glycemia and bone health;
- Develop strategies to understand and address low consumption of dairy products in children;
- Determine whether adding milk products to an exercise intervention results in greater benefits related to body composition and bone health for overweight and obese girls;
- Determine whether adding milk products to everyday meals can increase the health benefits of nutrients from other foods;
- Investigate the impact of reducing salt concentration in Canadian cheeses on microbial activity and production of biogenic amines;
- Provide evidence that milk and dairy products are a constant and reliable source of vitamin B12 that can help consumers meet their daily requirements.

Dairy and Cardiometabolic Outcomes: A systematic review by Canadian researchers concludes that dairy may reduce the risk of several cardiometabolic-related outcomes.

"The recommendation to focus on low-fat in place of regular/high-fat dairy is currently not evidence-based."

**Jean-Phillippe Drouin-Chartier, PhD,
Université Laval**

Ongoing Projects:

1. Integrated research program on dairy, dairy fat and cardiovascular health – Principal Investigator (PI): Benoit Lamarche, Université Laval
2. The effect of milk products and novel milk products on satiety, food intake and metabolic control (glycemia) in early and late adulthood – PI: Harvey Anderson, University of Toronto
3. Dairy nutrition and risk of diabetes in vulnerable populations: novel insights from biomarkers-based approach – PI: Anthony Hanley, University of Toronto
4. Beneficial effects of milk and fermented dairy products on intestinal and adipose tissue inflammation, and obesity-linked cardiometabolic diseases – PIs: Denis Roy, Université Laval and Martin Lessard, AAFC-Sherbrooke
5. Association between dietary intakes and cardiovascular risk of Canadians using the Canadian Health Measures Survey cycles 1+2 – PI: Susan Whiting, University of Saskatchewan
6. Role of high dairy diet on bone health outcomes in pregnant women and their offspring in early life (Bone BHIP): A randomized clinical trial – PI: Stephanie Atkinson, McMaster University
7. FAMILY (FAMILY MILK product two-Year) dose-response study to enhance bone health – PI: Hope Weiler, McGill University
8. Nutritional synergy between dairy products and other food nutrients – PI: Michel Britten, AAFC-Saint-Hyacinthe
9. Concentration of biogenic amines in different Canadian cheeses and effect of salt concentration on the type of biogenic amines produced in cheeses – PI: Daniel St-Gelais, AAFC-Saint-Hyacinthe
10. Milk and dairy products, outstanding sources of vitamin B12: a farm to fork approach – PI: Christiane Girard, AAFC-Sherbrooke
11. Regular fat cheese as part of a dietary management for diabetes treatment and prevention: Proof of concept – PI: Catherine Chan, University of Alberta
12. Study of the impact of cheese matrix on postprandial lipemia: A clinical study – PI: Patrick Couture, Université Laval
13. Suboptimal riboflavin status in women of childbearing age? Is dairy a potential solution? – PI: Tim Green, University of British Columbia
14. Increasing household purchase and child consumption of milk and milk products: A randomized controlled trial – PI: Mary Jung, University of British Columbia
15. Investigating the therapeutic potential of vaccenic acid in intestinal inflammatory diseases – PI: Spencer Proctor, University of Alberta
16. The influence of vitamin D on monocyte/macrophage function in patients with Crohn's disease – PI: Ernest Seidman, McGill University
17. Impact of buttermilk on immune function and the development of oral tolerance early in life – PI: Catherine Field, University of Alberta
18. Effects of a weight management intervention with increased dairy intake on body composition and bone health in overweight and obese girls – PI: Andrea Josse, Brick University
19. A randomized clinical trial on the effect of dietary calcium intake as compared to calcium supplement on vascular health in postmenopausal women – PI: Suzanne Morin, McGill University
20. Role of milk and alternatives on bone material and strength, body composition and cardio-metabolic risk from childhood to adulthood through the Pediatric Bone Mineral Accrual Longitudinal Study – PI: Hassan Vatanparast, University of Saskatchewan
21. Exercise and dairy protein interactions in the treatment of obesity and adipose tissue inflammation – PI: David Wright, University of Guelph
22. The Effect of Milk as a Recovery Beverage After Exercise on Next Day Post-Prandial Triglycerides – PI: Phillip Chillbeck, University of Saskatchewan
23. Genetics, gut microbiome and fatty acids metabolism: A multi-dimensional approach for evaluating the impact of dairy fat on cardiovascular health – PI: Peter Jones, University of Manitoba
24. Enhancement of vitamin B12 content in yoghurt using fortification strategies and vitamin producing probiotics – PI: Yvonne Lamers, University of British Columbia
25. Functional role of mechanisms of action of glycomacropeptide: A milk bioactive compound in obesity-related metabolic syndrome – PI: Emile Levy, Université de Montréal
26. Dairy products to prevent sarcopenia in people undergoing treatment for cancer – PI: Vera Mazurak, University of Alberta
27. The impact of low-fat and full-fat dairy consumption on glucose homeostasis – PI: Mario Kratz, Fred Hutchinson, Cancer Research Centre
28. Study into improved health for elderly through increased dairy consumption – PI: Sandra Iuliano-Burns, University of Melbourne

Research Success Story

DFC-sponsored study on the role of dairy products and cardiovascular health published in prestigious scientific journal

The results of a key study regarding the role of dairy products on cardiovascular health were published in March 2017 in the prestigious American Journal of Clinical Nutrition, "a statement to the study's importance and impact in the field," according to the research team led by Dr. Benoit Lamarche of Université Laval.

The multicenter, randomized controlled trial looked at the role of dairy fat on risk factors for heart disease. It showed that saturated fats from cheese and butter increases LDL cholesterol in people with high LDL levels but not in people with normal levels. The study also showed that saturated fats from cheese and butter had no significant effect on several other important cardiovascular risk factors.

These results support the concept of considering foods for their overall nutritional and health benefits instead of focusing on individual nutrients such as saturated fat or only on one risk factor such as LDL cholesterol. This has important implications when it comes to developing dietary guidelines.

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