



# Dairy Research for a Healthy World

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Communications Specialist  
Dairy Research Cluster



Dairy Research for a  
Healthy World.

Dairy Farmers  
of Canada



Les Producteurs laitiers  
du Canada

# DFC Research Team

- \* Isabelle Neiderer, *Director, Nutrition*
- \* Maria Kalergis, *National Program Manager, Nutrition, Scientific Affairs*
- \* Émie Désilets, *Assistant Director, Dairy Production Research*
- \* Annik L'Espérance, *Research Coordinator*
- \* Shelley Crabtree, *Communications Specialist*





# DFC Research Investments

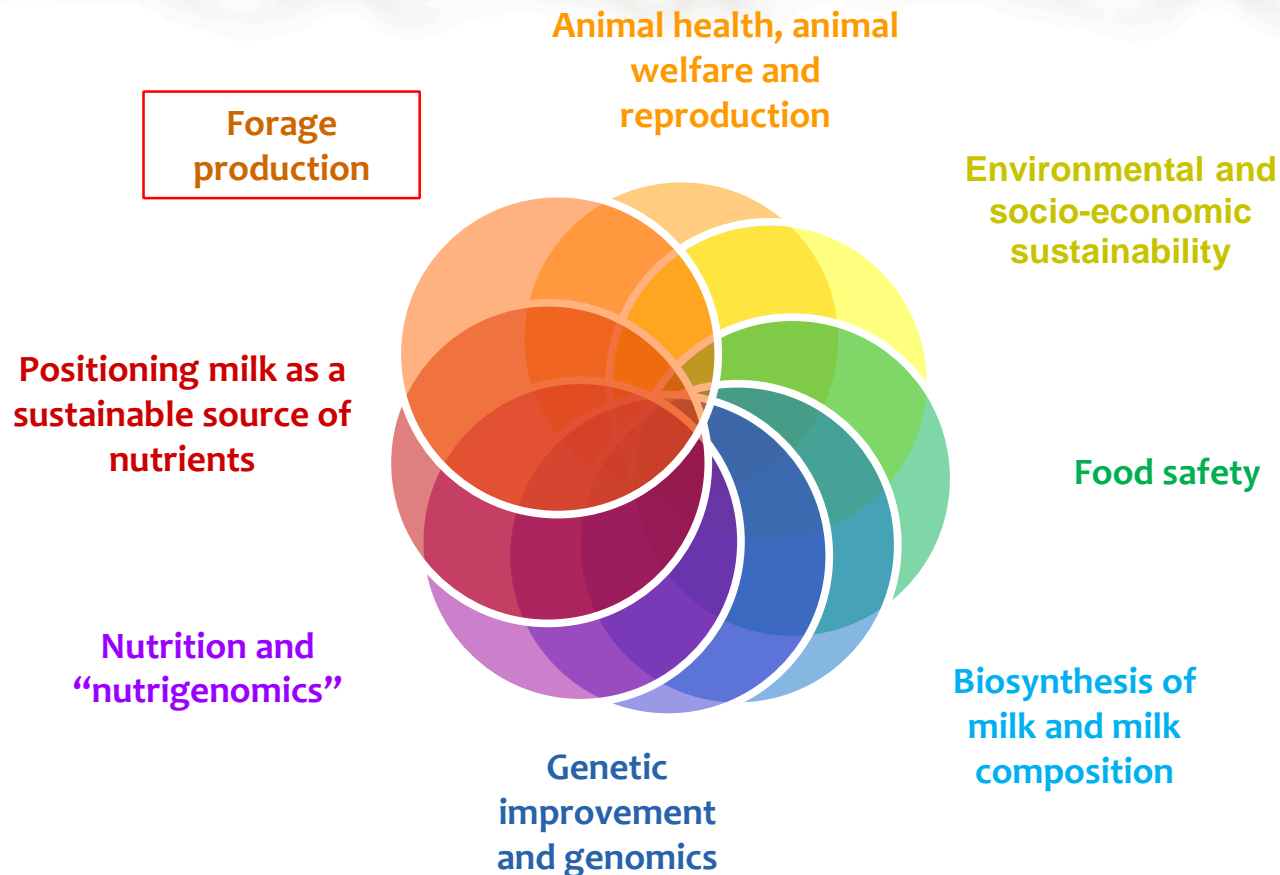
**Annual budget: \$1,960,000**

- \* Human nutrition research = \$1,200,000
- \* Milk production research = \$760,000



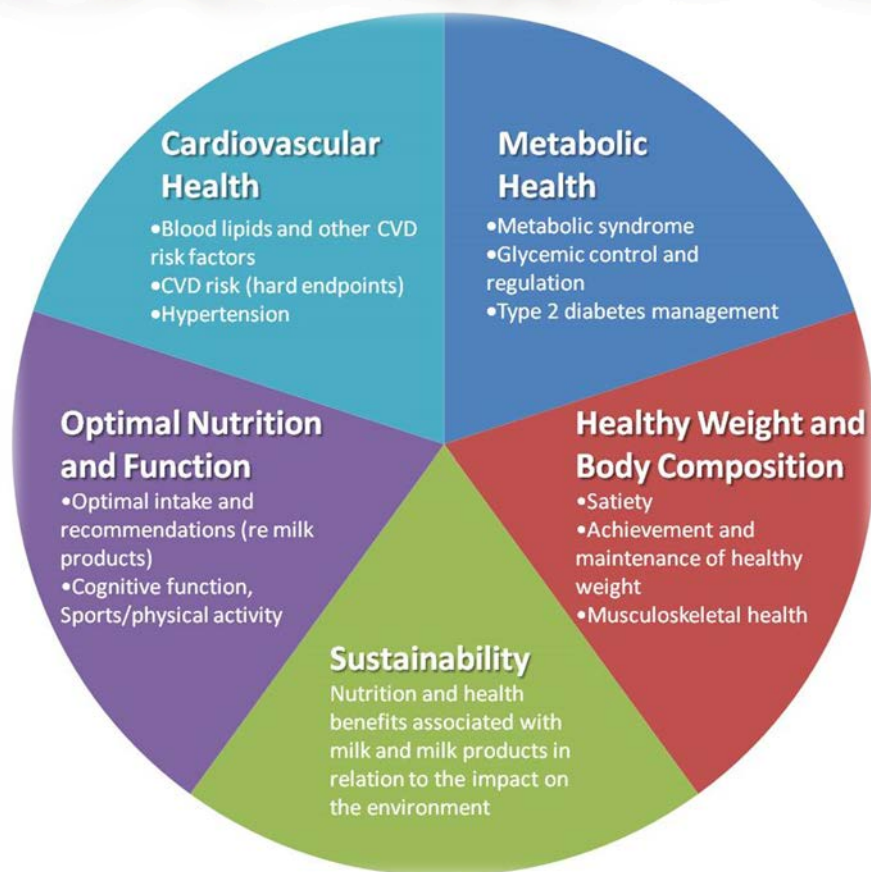
**Total leveraged investments  $\approx$  \$6,600,000**

# Milk Production Research Priority Areas





# Human Nutrition Research Priority Areas





# Where Does Research Fit?

## DFC Priority Issues

- \* proAction
- \* Productivity and Efficiency of Farms
- \* Sustainability
- \* Human Nutrition

## Associated Research Priorities

- \* Best management practices and program standards based on sound science (i.e. animal care assessment)
- \* Gains to improve feed efficiency, production techniques and management, genetics, lower costs of production, health of animals, etc.
- \* Better environmental stewardship and lower carbon, water and land footprints
- \* Increase awareness of the nutritional value and health benefits associated with milk products, as part of a healthy, balanced diet



# Main Funding Programs

1. AAFC Agri-Innovation program
  - A. Dairy Research Cluster
  - B. Organic Science Cluster
2. DFC's Expert Scientific Advisory Committee annual competition in Human Nutrition (ESAC)
3. DFC's Production Expert Scientific Advisory Committee annual competition (PESAC) - *temporarily suspended*
4. NSERC Industrial Research Chairs Grant
5. DairyGen Committee of the Canadian Dairy Network open competition

# Dairy Research Cluster

## 3 research themes:

- Sustainable milk production (12 activities)
- Genetics and genomics (4 activities)
- Human nutrition and health (7 activities)

**Total budget = \$18,789,402**

- \* Agriculture and Agri-Food Canada (\$12,000,00)
- \* DFC (\$5,370,301)
- \* Canadian Dairy Network (\$669,101)
- \* Canadian Dairy Commission (\$750,000)
- \* Knowledge transfer activities
- \* (Management costs)







# Sustainable Milk Production Theme

## total 12 projects

([www.dairyresearch.ca](http://www.dairyresearch.ca) for summaries)

### **ENVIRONMENT – SUSTAINABILITY**

- \* Eco-efficient management of forage crops and manure
- \* Mitigation of enteric methane production from dairy cows and impact on manure emissions: Filling knowledge gaps
- \* Balancing dairy rations for protein: filling the gaps and updating formulation models to reduce protein intake sensibly
- \* Water footprint assessment and optimization for Canadian dairy farms
- \* Development of an online interactive self-assessment and improvement tool (footprinter) to assess and compare production/management systems



# Animal Health

- Dairy cow management for the next generation
- A national dairy cattle health and management benchmarking study
- Canadian Bovine Mastitis and Milk Quality Research Network
- Sustainable solutions to improve estrous detection and reproductive efficiency in dairy cows



# Animal Care

- Better animal welfare leads to improved animal health and longevity, and economic advantages to dairy producers
- Innovative feeding and best management practices for the very young dairy calf to improve calf performance, welfare, and future productivity
- Automatic milking systems: factors affecting health, productivity and welfare



# Dairy Genetics and Genomics Theme

([www.dairyresearch.ca](http://www.dairyresearch.ca) for summaries)

- \* Development and testing of new methods for genomic evaluation in dairy cattle
- \* Improving hoof health in Canadian dairy farms
- \* Improving cow health and the nutraceutical value of milk with Infra-red technology
- \* Canada's ten thousand cows genome project





# Human Nutrition and Health Theme

([www.dairyresearch.ca](http://www.dairyresearch.ca) for summaries)

- \* Integrated research program on dairy, dairy fat and cardiovascular health
- \* The effect of milk products and novel milk products on satiety, food intake and metabolic control (glycemia) in early and late adulthood
- \* Dairy nutrition and risk of diabetes in vulnerable populations: a novel biomarkers-based approach
- \* Beneficial effects of milk and fermented dairy products on intestinal and adipose tissue inflammation, and obesity-linked cardiometabolic diseases
- \* Association between dietary intakes and cardiovascular risk of Canadians using the Canadian Health Measures Survey cycles 1+2
- \* Role of high dairy diet on bone health outcomes in pregnant women and their offspring in early life (Bone BHIP): A randomized clinical trial
- \* FAMILY (FAMily MILK product two Year) dose-response study to enhance bone health



# Organic Science Cluster II – Dairy

- \* 4-year program
- \* DFC contribution: \$185,000
- \* 4 activities funded through the Organic Science Cluster II:
  - \* Alternative sources of bedding (Renée Bergeron, U.Guelph)
  - \* Effect of exercise and stall modifications on cow comfort and performance in tie-stall farms (Elsa Vasseur, U.Guelph)
  - \* Alternative therapies for the treatment of clinical mastitis (Simon Dufour and David Francoz, U.Montréal)
  - \* Bioactive products for the control of internal and external parasites in large ruminants (Simon Lachance, U.Guelph)



# Dairy Research for a Healthy World in 2015

- \* 45 research activities
- \* 144 scientists
- \* 13 Canadian universities
- \* 10 Federal Research Centres
- \* > 130 graduate students and post-doctoral fellows (over the next 5 years)
- \* communication and knowledge transfer plan



## DFC Dairy Research Highlights - 2014

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# Growing Forward 3

## DRAFT

<b>December 2015</b>	End of survey on research priorities
<b>February 2016</b>	Presentation of priority survey results at the research symposium
<b>September 2016</b>	Finalize the research priorities of DFC and partners
<b>October 2016</b>	Call for research proposals
<b>October 2017</b>	Approval of proposals selected by the DFC Board of Directors
<b>December 2017</b>	Filing of DFC application for Dairy Cluster 3



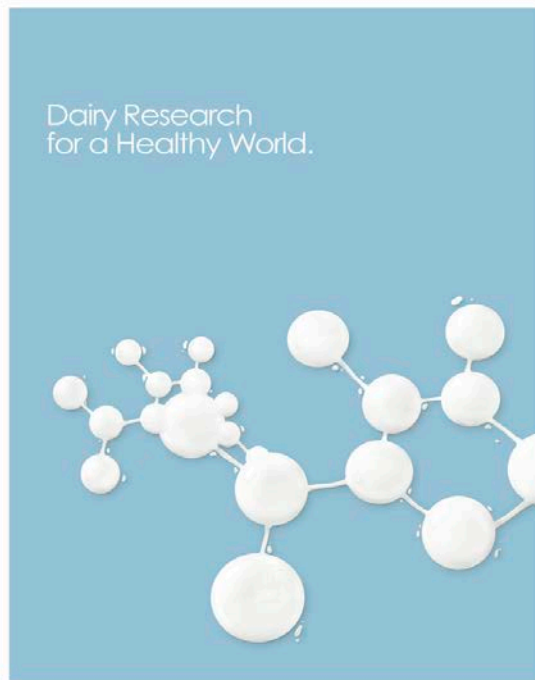
# **Dairy Research Cluster: Communications & Knowledge Transfer Activities**



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# Communications and Knowledge Transfer in the Cluster



- \* Communications and Knowledge Transfer is an activity in the Dairy Research Cluster 2 (2013-2018)
- \* Work plan
- \* Annual review and reporting on performance and progress



# Objectives

- \* **Develop and deliver information** on dairy research activities and results to farmers.
- \* **Position Canadian dairy farmer investments in research** and its contributions in the Canadian knowledge economy.
- \* **Tell our research success stories.**
- \* **Showcase the strong network of world class Canadian scientists and students** working in Canadian dairy.



# Have Your Say!

- \* Invite producers to Have Your Say in Canadian Dairy Research:
  - \* Identify a Question for research
  - \* Ask a scientist a question
  - \* **Identify priorities for research for the future**



# Innovate<sup>3</sup>

## Dairy Research Symposium 2016



**Register for the LIVE webcast at  
[www.dairyknowledge.ca](http://www.dairyknowledge.ca)**

# Animal Comfort – Webinar Series



**Registration OPENS February 2016  
at [www.dairyknowledge.ca](http://www.dairyknowledge.ca)**



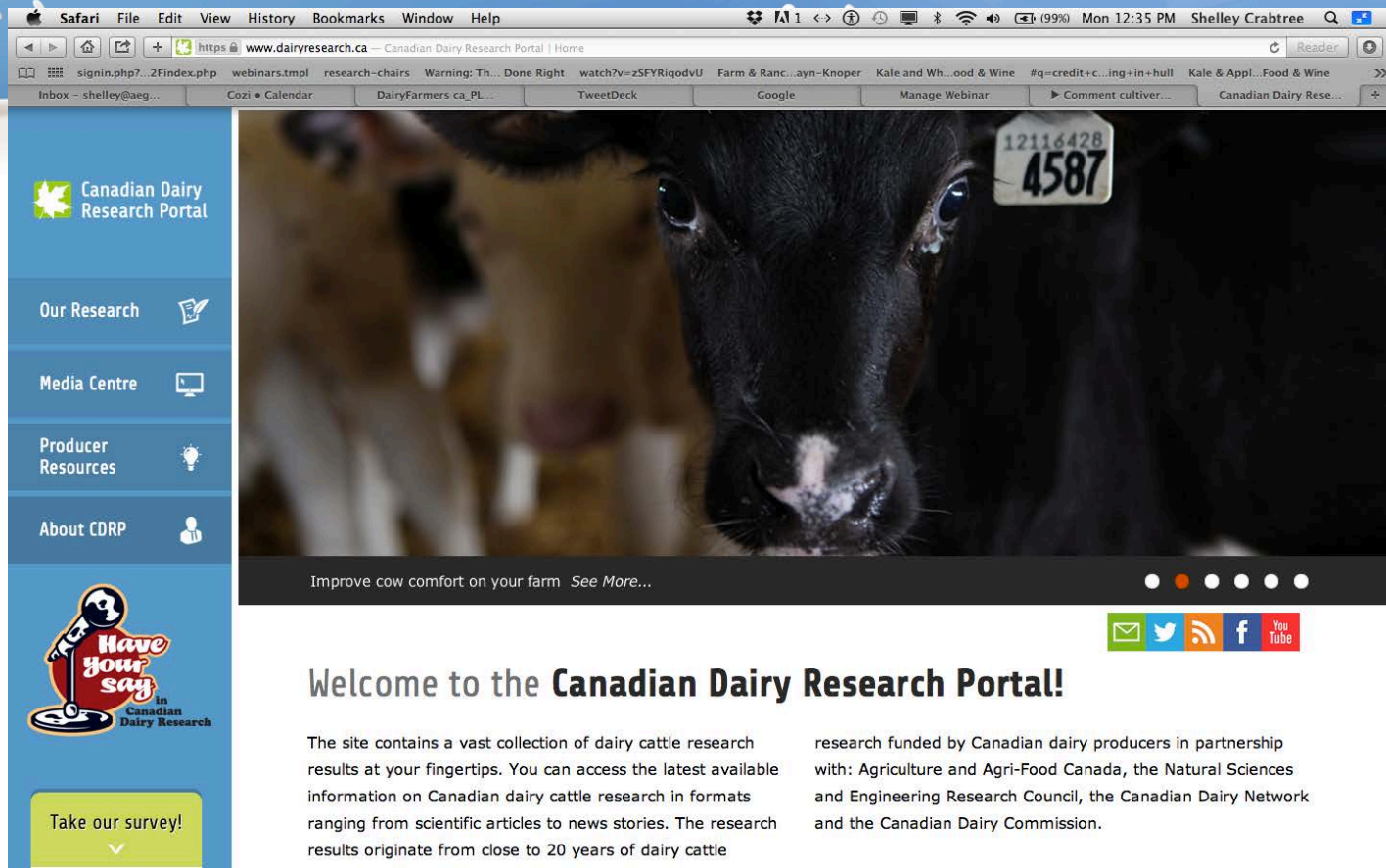


# Ongoing knowledge transfer

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# Dairy Research Portal



**Canadian Dairy Research Portal**

Our Research

Media Centre

Producer Resources

About CDRP

**Have your say**  
in Canadian Dairy Research

Take our survey!

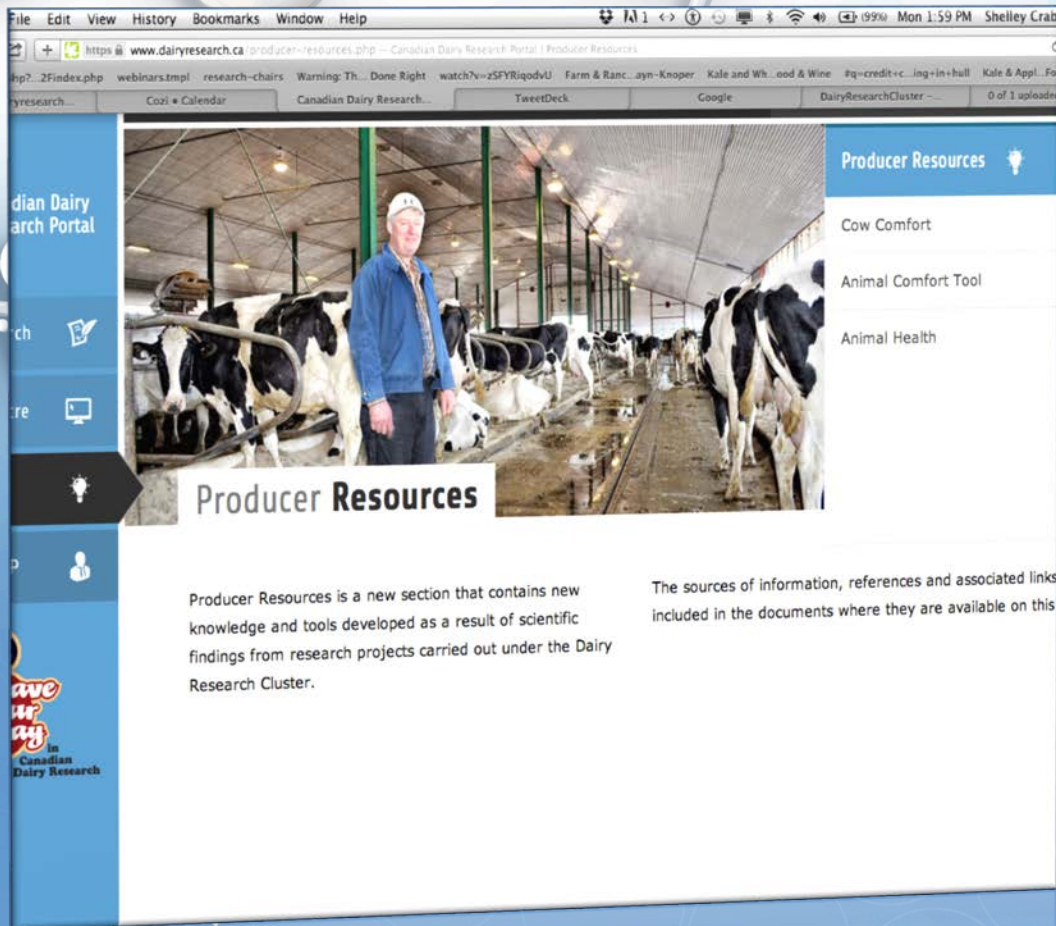
Improve cow comfort on your farm *See More...*

Welcome to the **Canadian Dairy Research Portal!**

The site contains a vast collection of dairy cattle research results at your fingertips. You can access the latest available information on Canadian dairy cattle research in formats ranging from scientific articles to news stories. The research results originate from close to 20 years of dairy cattle

research funded by Canadian dairy producers in partnership with: Agriculture and Agri-Food Canada, the Natural Sciences and Engineering Research Council, the Canadian Dairy Network and the Canadian Dairy Commission.

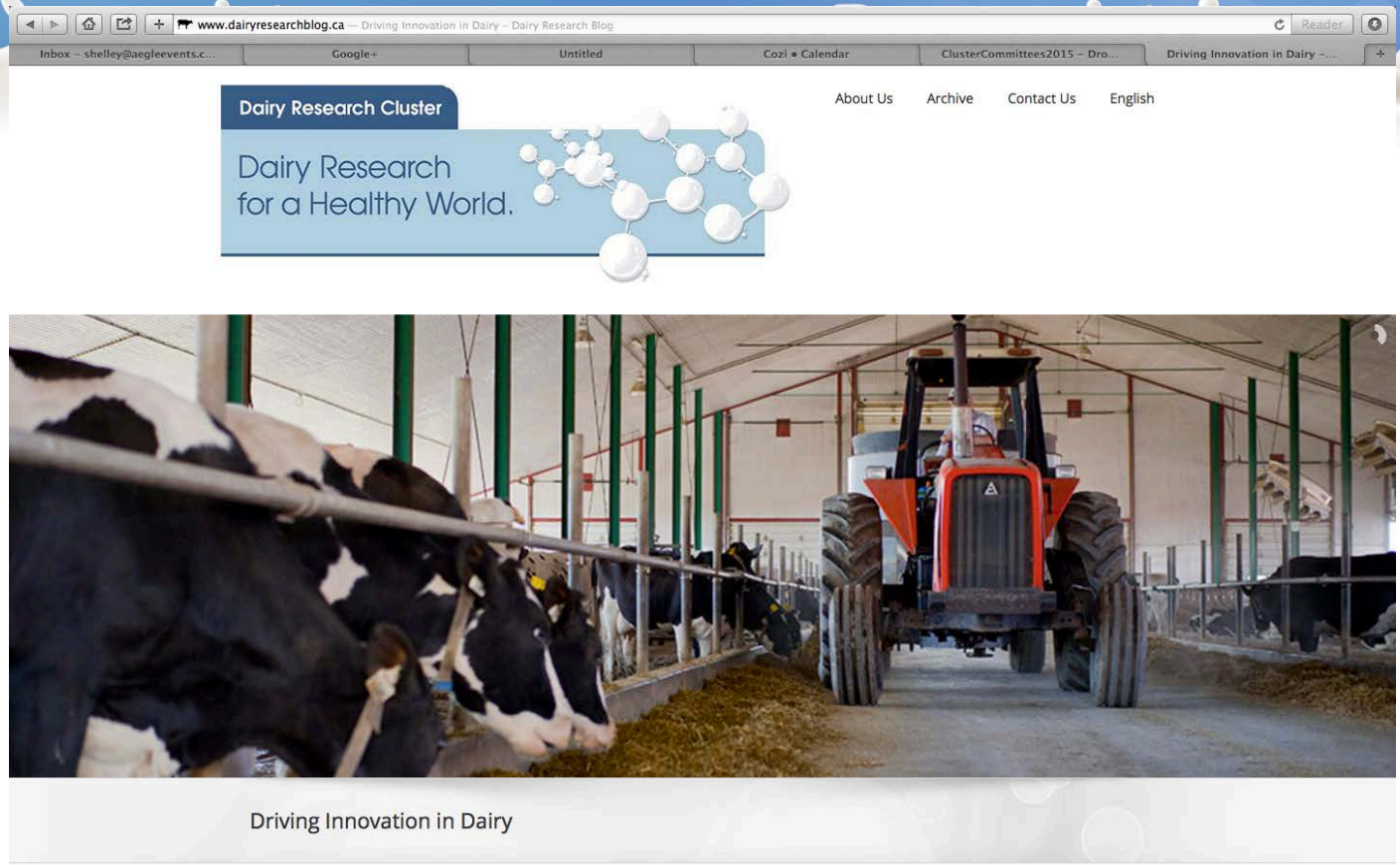
[www.dairyresearch.ca](http://www.dairyresearch.ca)



Priorities:  
Producer resources  
Provincial projects  
Researcher profiles

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# Dairy Research Blog



[www.dairyresearchblog.ca](http://www.dairyresearchblog.ca)



# Videos



The image shows a YouTube video player interface. The video title is "Scoring dairy cow hock, knee and neck conditions". The video features the SPARKair logo, which consists of a stylized sunburst icon followed by the text "SPARK" in white and "air" in white text inside a red rounded rectangle. Below the logo, the title is repeated in French: "Évaluation de l'état du jarret, du genou et du cou chez les vaches laitières". The video player includes a progress bar at the bottom of the video frame showing 0:03 / 4:55. Below the video frame, there is a toolbar with icons for edit, share, music, comments, info, and closed captions. To the right of the toolbar are buttons for "Analytics" and "Video Manager". Below the video player, the channel name "DairyResearchCluster" is displayed with a small profile picture and a "Channel settings" button. The video title "Code of Practice for the Care and Handling of Farm Animals" is shown above the channel name. The view count "145 views" is displayed to the right of the channel name. At the bottom, there are buttons for "Add to", "Share", and "More", along with like and dislike icons and counts.

YouTube CA

Scoring dairy cow hock, knee and neck conditions

 SPARKair

Évaluation de l'état du jarret, du genou et du cou chez les vaches laitières

0:03 / 4:55

Analytics Video Manager

Code of Practice for the Care and Handling of Farm Animals

 DairyResearchCluster

Channel settings

145 views

+ Add to Share ... More

0 0

[Dairy Research Cluster Channel on YouTube](#)



# Events

- \* Jan 2016 - SaskMilk
- \* Feb 2-4 – DFC Pol Conf 2016
- \* Feb 5 – Dairy Research Sympo
- \* March 2016 – WCDS
- \* June - Mastitis Network
- \* July 2016 - DFC AGM
- \* September – CDN
- \* October – CRAAQ
- \* November 2016 – BCDA
- \* December 2016 - MMP



# Articles



The second Dairy Research Cluster was launched on January 1, 2014 and 23 activities are now underway. The following is a brief report on progress made in select projects that are delivering results for farmers! Visit [DairyResearch.ca](http://DairyResearch.ca) for more information on dairy research in Canada.

## SUSTAINABLE MILK PRODUCTION

### Dairy Cow Comfort "How-to" Published

Researchers at the Universities of Guelph, Calgary, British Columbia and Laval developed a "How-to" tool that will help improve animal comfort on dairy farms. A total of fifteen researchers and extension specialists from several fields related to dairy cow comfort (behaviour, nutrition, health and management)

which is now part of the proAction Initiative: On-Farm Excellence. The research in this area also served to form the basis for a practical cow comfort training program offered by Valacta in 2015.

Read Dr. Vasseur's Blog post on [DairyResearchBlog.ca](http://DairyResearchBlog.ca).

## In Print...

E-newsletter (subscribe at [www.dairyresearch.ca](http://www.dairyresearch.ca))

## Monthly articles :

- \* *The Milk Producer*
- \* *Le producteur de lait québécois*
- \* *Provincial newsletters*
- \* *Dairy Express*
- \* *Progressive Dairyman*



# Sustainability Initiatives in the Dairy Research Cluster

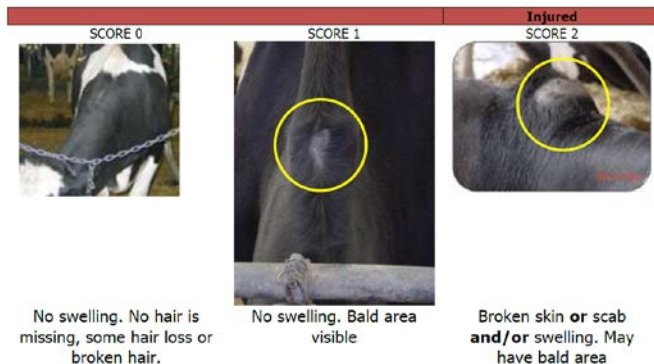
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# Cow comfort across dairy farms in Canada (Cluster 1 and 2 projects)



- \* DFC used animal care and welfare research developed in the Cluster as the basis for the DFC-NFACC animal care assessment program & part of the proAction Initiative. (A copy of the animal care tool and its documents can be accessed on [dairyresearch.ca](http://dairyresearch.ca).)



- \* The research team is now working on a follow-up study to evaluate the impact of recommendations on farms based on the Code of Practice – outcome is an advisory tool that will outline economic benefits of adoption.



# LCA and Environmental footprinter

## (Cluster 1 and 2 projects)

- \* Based on AGECO LCA study, Canadian Milk's footprint for carbon, land and water are among the lowest globally.

### Footprint of 1 kg of FPCM



### Equivalent impacts (non life-cycle)

6 km driven with a car



a 2 minute shower



0.5 kg of wheat  
(1-2 breads)



- \* AGECO is developing a comprehensive, user-friendly online assessment tool for dairy producers:
  - \* To identify opportunities to enhance performance; and,
  - \* To target areas where best management practices will lead to more sustainable milk production.

# Dairy Farms +

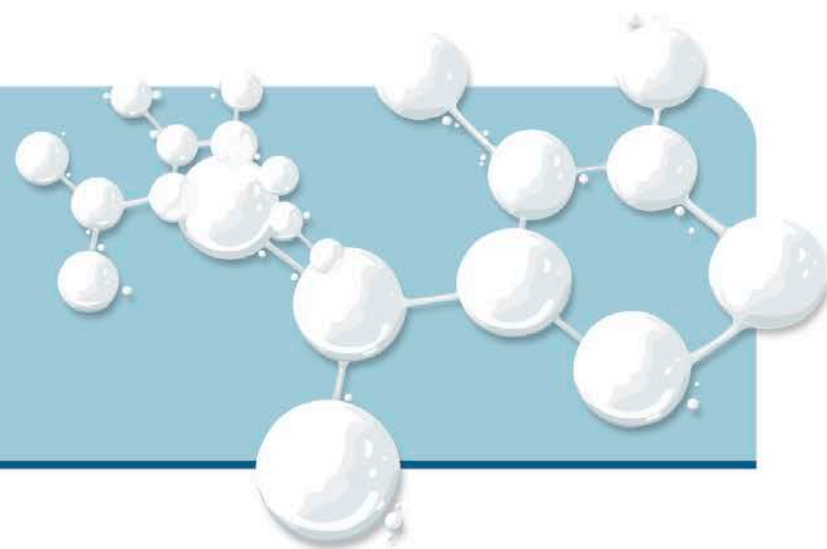




# Thank you!

## Dairy Research Cluster

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Agriculture and  
Agri-Food Canada

Agriculture et  
Agroalimentaire Canada



Canadian Dairy  
Commission

Commission  
canadienne du lait