Project

Optimizing health and production of cows milked in robotic systems

DAIRY RESEARCH CLUSTER 3
FOR A PRODUCTIVE, INNOVATIVE AND SUSTAINABLE SECTOR

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National Dairy Research Strategy investment priorities targeted:
• Dairy cattle nutrition
• Dairy cow transition period related health and welfare issues
• Sustainable barn design for conventional and alternative dairy cattle housing systems

PERIOD: 2018-2022
TOTAL BUDGET: $300,000

Why this research is important:

In 2018, about 10% of farms enrolled in a milk recording program in Canada used robotic milking systems[1]. While the adoption of new technologies like robotic milking systems can reduce labour requirements, improve the lifestyle of dairy farm families, and potentially improve cow health and production, not all farmers may realize those benefits. Evidence provided in the Dairy Research Cluster 2 demonstrated that reduced cow production and health, particularly in early lactation, may limit profitability in adopting this new technology. There is also considerable variation in Canada in terms of nutrition, management and housing of dairy cows milked with robots. There is little known of the optimal strategies that can be used by farmers to address these challenges.

Research objective:

Improve cow health, milk production, and efficiency of robot use by determining optimal nutritional and housing strategies for cows milked automatically in Canadian dairy farms.

Project overview:

The approach taken will involve a large-scale, prospective cohort study collecting data from 200 farms using robotic milking systems across all regions of Canada. Data will be collected in collaboration with Lactanet continuously across a 12-month period of time for each participating farm. Three types of data will be collected on each farm during that time: 1) data collected by research staff on housing, feeding, and management during two visits to the farms; 2) milking related data for the 12-month period collected automatically by robotic milking systems; and 3) milk recording data for each herd for the 12-month period of time. Data from the participating farms will be analysed to determine cow and herd level factors influencing milk production, cow health, and efficiency of robot use to ultimately identify best management practices for farms with robotic milking systems.

Expected outcomes:

Identify best management practices for Canadian dairy farmers who have adopted or are considering the adoption of robotic milking technology, to enable farmers to continue to produce milk efficiently and competitively. Recommendations will be generated to maintain optimal cow health and feeding in robotic barns, based on barn design and layout, for all stages of lactation.

[1] Dairy barns with robotic milking system by type in Canada, Canadian Dairy Information Centre, Government of Canada: dairyinfo.gc.ca/index_e.php?s1=dff-fcil&s2=farm-ferme&s3=db-el

The participation of 200 Canadian dairy farms will contribute to the successful completion of the project.