

# BCRC BEEF SCIENCE CLUSTER

# RESEARCH Facts

IN PROGRESS

## Training New Food Safety Researchers FOS.03.09


**Project Title:** Establishing a Post-Doctoral Fellow in Food Safety Research


**Researchers:** Dr. Colin Gill, AAFC Lacombe

**Background:** Both government and industry understand the need for strong science-based regulatory policy and production practices. Several key federal government researchers plan to retire in the near future. The lack of a clear strategy to ensure that this research expertise is maintained concerns Canada's beef and cattle sector.


**Objective:** To ensure that AAFC food safety research programs are maintained, and to support continued investment in new food safety interventions that benefit Canada's beef and cattle industry.


This researcher will mentor a new food safety scientist who will undertake core projects that will improve pathogen detection, establish optimal decontamination strategies, and reduce food safety risks through alternative treatment and management strategies.

✓  Develop simple procedures to determine whether decontaminating treatments used by Canadian beef plants are effectively control microbial pathogens. This research will also help the CFIA develop better validation standards for beef safety.

✓  Examine whether harmless E. coli on cattle arriving at packing plants can be used to predict E. coli 0157 on hides, the risk of transferring E. coli 0157 to carcasses, and persistence on meat through processing.

✓  Develop and test easy ways to detect microbial contamination of meat processing equipment that is not easily cleaned, and evaluate whether equipment cleaning procedures are effective.

✓  Examine ways to discriminate between DNA from live and dead bacteria so that microbial pathogens have been largely or entirely inactivated do not produce false positive test results.

✓  Assess the effects of fluctuating temperature conditions on the microbiological safety of beef. Maintaining proper chiller temperature helps ensure the microbiological safety of beef products, but temperatures in meat facilities are never uniform due to air movement and heat from lights, equipment and other sources. This project will collect air, equipment and product temperatures in beef facilities and use it to develop better models for the growth of pathogens at typical commercial temperatures.

**Implications:** Maintaining federal food safety research infrastructure and expertise is critical to ensuring the scientific credibility of Canada's beef industry in domestic and international markets.

The Beef Research Cluster is funded by the Canadian Cattlemen's Association and Agriculture and Agri-Food Canada to advance research and technology transfer supporting the Canadian beef industry's vision to be recognized as a preferred supplier of healthy, high quality beef, cattle and genetics.

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