

5B: Health Impacts of Optimized Pre-conditioning in Beef Cattle

Pillar: Antibiotic Optimization

Theme: Education and Societal Impact

Keywords: Antimicrobial Use; Beef Cattle; Pre-Conditioning



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AIM

The focus of this project is to evaluate the impact of pre-conditioning on performance, health, and welfare of calves in the feedlot. We aim to add to the body of evidence regarding the costs and benefits of pre-conditioning as it relates to disease prevention and reduced antimicrobial use.

WHY IS THIS IMPORTANT?

Bovine Respiratory Disease (BRD) is a common disorder, and it requires the use of antimicrobials. Evidence in support of BRD risk reduction can promote pre-conditioning which is currently not a well-adopted practice.

OUTCOMES

We will be able to collect data on the morbidity, mortality, and performance of pre-conditioned calves when commingling with conventionally raised calves. We will gain an understanding of microbiome development under different circumstances.

RESEARCH QUESTIONS

- 1 What is the impact of optimized pre-conditioning on calf health outcomes in conventional feedlot environments?
- 2 Does the economic benefits from pre-conditioning erode when commingling occurs?
- 3 What is the impact of pre-conditioning on microbiome development?

OUR APPROACH

Pre-conditioned calves (optimized vaccination, timing of interventions, and weaning strategy), will be placed in feedlot pens in different ratios with conventionally raised calves. Data will be collected on:

- 1 Morbidity and mortality
- 2 Respiratory microbiome
- 3 Economic parameters, such as cost-benefit

ALIGNMENT WITH THE AMR - ONE HEALTH CONSORTIUM

LEVERAGED SOURCES OF SUPPORT

Anderson-Chisholm Chair for Animal Care and Welfare • Natural Sciences and Engineering Research Council of Canada • Olds College in-kind • Results Driven Agriculture Research (RDAR) • Simpson Chair for Beef Cattle Health and Wellness • University of Calgary UCVM in-kind

KNOWLEDGE & TECHNOLOGY EXCHANGE AND EXPLOITATION

- Change in beef practices
- Increased animal welfare
- Alternatives to antimicrobial use

TRAINING OF HIGHLY QUALIFIED PERSONNEL

- 1 PhD
- 4 Masters as graduate students
- 2 Animal Health Technicians at Olds College
- Undergraduate students

AFFILIATIONS:



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