



Managing calves before arrival at the feedlot to reduce infection disease and antimicrobial use and resistance: What is it worth?

## VALUING MANAGEMENT IN CALVES PRIOR TO FEEDLOT ARRIVAL

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**LEAD RESEARCHERS:** Dr. Cheryl Waldner  
(Western College of Veterinary Medicine)

**COLLABORATORS:** John Campbell, Nathan Erickson  
(Western College of Veterinary Medicine)

**Background:** Bovine Respiratory Disease (BRD or shipping fever) is the most common and costly disease affecting beef cattle. It can account for up to 80% of sickness and 75% of deaths in some scenarios. While most commonly found in newly arrived feedlot cattle, BRD can also occur late in the feeding period, or in calves on pasture (summer pneumonia). BRD is a multifactorial disease, encompassing both bacteria and viruses, which can make prevention and treatment challenging. However, it is well documented that management practices such as [pre-conditioning](#) and [low-stress weaning](#) help to reduce the negative impacts of BRD.

**Objectives:** The objectives of this study are to:

1. Assess the impact of calf management before arrival on disease and costs of production in the feedlot, including disease transmission dynamics, impacts on antimicrobial use and resistance, and economic cost:benefit
2. Develop a web-based interactive tool to evaluate the costs of calf management relative to expected benefits

**Implications of the Research:** This project will provide a dynamic, evidence-based risk-assessment of the extent to which various production practices at the cow-calf level impact calf health and performance in the feedlot. The model is unique in that it can allow for a variety of management scenarios including mixing of vaccinated and unvaccinated calves within pens or pens of preconditioned calves located next to calves that were abruptly weaned. The developed tool will identify and evaluate the impact of cost-effective vaccination and management strategies for calves before arrival at the feedlot on performance and health outcomes in the feedlot, while concurrently providing better estimations of the economic incentives necessary to drive adoption of those practices at the cow-calf level.

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