Effective and economic Johne’s Disease control using new early disease detection assays

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Background

• More knowledge is present on the disease transmission among calves. Our research group reported that each MAP-infected calf infects on average ~3 non-infected pen mates (Corbett et al., 2017)
• New biomarkers have become available to identify MAP-infected cattle on farms
• However, the economic effects of a Johne’s disease control program based on calf-to-calf transmission have not been evaluated

Objectives

• Design an improved JD control program, including prevention of calf-to-calf transmission
• Determine accuracy of new technologies for early detection of MAP-infected dairy cows
• Model economic impacts of the new control program

Expected outcomes

• Improvements in herd management, increased production, decreased culling, and economic benefits

Materials and Methods

 Improve the JD control program

10 Alberta dairy farms
With:

• MAP prevalence (5-25%)
• Disease and treatment records

Willing to eradicate JD, meaning:

• Making management adjustments
• Separate MAP positive animals, withholding breeding and culling them as soon as possible

First visit

• Risk assessment
• Initial MAP prevalence

Every two months

Sample collection of:
• Calves
• Environmental samples

Every six months

Sample collection of:
• Adult cows
• Risk assessment

Enough information to:

Evaluate management control practices
Design proper interventions
Develop new technologies
Eradicate JD


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