

Risk Assessment and Environmental Sampling as Useful Tools to Control Johne's Disease on Alberta Dairy Farms

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In the past, Johne's disease (JD) control programs were based on single animal testing and culling of test-positive animals. These programs were very costly and the laboratory test methods were not perfect, resulting in undetected infected animals. With the current knowledge on the dynamics of the disease, focus has shifted toward changes of management practices leading to an interruption of bacterial transmission from infected to not infected animals, particularly calves. In the Alberta Johne's Disease Initiative (AJDI) that started in the fall of 2010, the herd veterinarian fills out a farm-specific risk assessment, which identifies strengths and weaknesses of the farm management related to transmission of *Mycobacterium avium* subsp. *paratuberculosis* (MAP). In addition, the AJDI evaluates the infection status of a herd with six environmental samples collected at different sites such as the manure storage, calving area and alleyways.

The objectives of this study are to determine 1) the proportion of AB dairy farms that are infected with MAP; 2) the adoption rate of preventive practices for MAP infection on AB dairy farms; and 3) to evaluate the association with herd-level MAP infection status and management practices. The data for this study will be provided by the AJDI. Participation of approximately 50% of the Alberta dairy farms by the end of 2011 is anticipated. Preliminary results will be available in the summer of 2011. Expected results are that environmental samples will be a good predictor of the herd MAP infection status and that specific management practices can successfully interrupt the infection chain of MAP.

Implications: Results from this study can be used to evaluate and improve the AJDI. They will also provide suggestions for focused sampling strategies and use of the risk assessment as a tool. The overall objective of the AJDI is to decrease the prevalence of MAP infection on AB dairy farms.