Economic Evaluation of Participation in the Alberta Johne's Disease Initiative (AJDI) From a Farmer's Perspective

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The AJDI is a voluntary Johne's disease control program which has been launched by Alberta milk and University of Calgary in 2010. Its objective is to reduce the spread of the disease by implementing best management practices on participating farms. The economic impact of participating in this program has never been analysed. We therefore performed a cost effectiveness analysis. We calculated the net benefit of participation in the AJDI compared to no participation, from the perspective of an Alberta dairy farmer. In our economic model we used Alberta specific information and recommendations for management changes made by veterinarians and the likelihood of those being implemented by the farmer. Data were analysed through simulation of different scenarios over a period of 10 years. Participating farms had higher costs through implementation of new management practices. On the other hand, the implementation of those management practices resulted in a decreasing number of infected animals, which impacted the average milk production and the cows' longevity, as well as their slaughter value. This resulted in additional costs of Can $78 per cow in 10 years for uninfected farms. Nevertheless, if only 2.5% of the animals were initially infected with the disease, those costs were covered through an expected increase in production (positive net benefit of Can $11/cow in 10 years). In addition, participating farms had increased net benefits through the prevention of other diseases like calf diarrhoea and scours.

Implications: Findings of this study will help farmers decide whether it is beneficial to invest time and money into Johne's disease control through management changes on their farm.