

# Experiences and Lessons from the Development of a Bovine Leukemia Virus Control Program for the Alberta Dairy Industry

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Bovine Leukemia Virus (BLV) infects cattle and the majority of North American dairy herds are affected. BLV impairs infected animals' immune systems, thereby reducing milk production and decreasing longevity. Moreover, some animals develop fatal tumors, also known as Enzootic Bovine Leukosis (EBL). EBL often results in premature death or the condemnation of affected carcasses at the abattoir, thereby increasing the negative economic impact of BLV.

In absence of any vaccine or cure, producers can implement best management practices (BMP) in order to control BLV on their farms. These BMPs aim to prevent new infections. Eventually, infected animals will be replaced by uninfected ones and over time the number of BLV infected animals will decrease. We could demonstrate that various combinations of BMPs are economically beneficial. To achieve the best possible outcome, targeted laboratory testing, to determine the level of infection on farm, and a thorough risk assessment should be combined. Based on the results of these evaluations, an informed decision can be made and BLV control can be tailored to specific circumstances.

A trial on eleven Alberta dairy farms was used to evaluate the efficiency of this approach, as well as to collaboratively find novel ways to implement changes. The results show that by approaching BLV control holistically, BMPs can be implemented efficiently and successfully. Hearing and understanding producers' opinions and attitudes were important goals of this study and showed that producers were generally supportive of BLV control and were able to implement many of the suggested BMPs. However, economical, personal, and time factors were identified as hurdles and needed to be addressed. This was achieved by finding different options for some BMPs, entailing different levels of effort for the producer and effectiveness. For example, instead of buying a pasteurizer, some farmers decided to freeze and feed colostrum from negative dams only.

Until recently, BLV's negative impact has been underestimated, but is becoming more and more apparent. The dairy industry could benefit from the removal of BLV from farms, thereby improving animal welfare, milk production, and avoiding consumer concerns before they become a problem.