

# Increased Risk of Non-pregnancy Associated with *Neospora caninum* Infection in Western Canadian Beef Herds

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## Introduction, Materials and Methods

The first study examined long-term impact of a *N. caninum*-associated abortion outbreak in a large northern Alberta cow-calf herd.

Blood samples were collected three times from all bred females and from heifer calves born the spring before the outbreak (average age 7-9 months). These blood samples were collected (1) at the time of the outbreak, (2) the following spring, and (3) again the subsequent fall.

## Results and Discussion

At the time of the abortion outbreak, 81% of all bred females and 87% of heifer calves were serologically positive. In the spring, 49% of the cows and 47% of the heifer calves remained positive. The subsequent fall, 48% of the remaining cows and heifers were serologically positive. The fall after the outbreak, 13.5% of the yearling heifers and 22.2% of the mature cows were

not pregnant. Heifers that were still serologically positive in the spring were 1.8 times more likely to be open in the fall (95% CI, 1.2 to 2.9) and the cows positive in the spring were also 1.8 times more likely to be non-pregnant in the fall (95% CI, 1.04 to 3.22).

Blood samples were also collected from pregnancy-tested cattle at nearby auction marts. Of the 1806 cows tested, 17% were open and 9.1% were serologically positive. The positive cows were 1.7 times (95% CI, 1.3 to 2.2) more likely to be non-pregnant than the negative cows.

In fall 1999, 3100 blood samples were collected from beef cows during pregnancy testing across Saskatchewan and Alberta. Samples were collected from cows in community pastures and randomly sampled individual herds.

These samples will be used to examine prevalence of *N. caninum* in commercial cow-calf herds and to test the association between pregnancy and serological status. Management factors were also examined for association with herd serological status.