

## Determination of the seroprevalence of *Neospora caninum* in feedlot steers in Alberta

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**Abstract** — A study was conducted in Alberta to determine the seroprevalence of *Neospora caninum* in feedlot calves purchased from various auction markets throughout western Canada. Four feedlots (1 feedlot from each of the Airdrie and High River areas and 2 feedlots from the Strathmore area) were selected for sampling. At each feedlot, a random 10% sample of feedlot steer and bull calves entering the feedlot from September 2001 to December 2001 were enrolled in the study until there were a maximum of 500 animals enrolled per feedlot.

Blood samples were collected from 1976 male animals at the time of entry to the 4 study feedlots. The animals represented 375 groups purchased from 70 sale points throughout British Columbia, Alberta, Saskatchewan, and Manitoba. Of the 1976 animals tested, 128 animals tested positive for antibodies to *N. caninum*. The prevalence and adjusted 95% confidence limits for *N. caninum* in beef calves on entrance to the feedlot in western Canada were 6.5% (95% CI, 5.1 to 8.2).

There were no significant ( $P \geq 0.05$ ) associations between the risk of treatment, the risk of designation as “chronic,” and the risk of death and antibodies to *N. caninum* either before or after adjusting for feedlot, entry weight, entry date, and clustering of disease within lots at each feedlot. In addition, there was no significant ( $P \geq 0.05$ ) association between serological status and feedlot entry weight or average daily gain. Note that there was no information available on feed conversion because the calves were mixed within existing commercial feedlot pens and the actual feed intake of each animal could not be determined. Adjustment for the concentration of antibodies to bovine viral diarrhoea virus on arrival did not change any of the examined associations between *N. caninum* status and calf health or performance.

The results of this study demonstrated that the prevalence of *N. caninum* in feedlot calves in western Canada was less than the prevalence reported in the United States. Additional studies are required to determine whether the inferior rate of gain and feed efficiency observed in the southern United States with animals testing positive for antibodies to *N. caninum* also occurs under the management conditions used in western Canada.

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