

BVD. We expect that background levels of BVD antibodies will be present in most herds, making serological profiling very difficult to interpret. There has also been speculation that, in some cases, BVD may work with *N. caninum* to trigger or exacerbate reproductive losses in beef herds.

During the fall of 2001, blood samples were collected from more than 2500 cows from 65 herds across western Canada at pregnancy testing. Serological screening tests were used to examine samples from both open and pregnant animals from 35 herds with preg-

nancy rates greater than 90%, and compare them to samples from 30 herds with pregnancy rates less than 90%. All open cows were bled in each herd, and a random sample of pregnant cows were bled, for a total of 40 samples per herd. The study addressed the question of whether IBR, BVD, Neospora, or BVD and Neospora together increase the risk of individual animal pregnancy failure or the risk of herd pregnancy failure. The results of this study will be reviewed to explore the individual and potential combined role of these pathogens in reproductive performance in cow-calf herds.

Geographical Difference in Prevalence of *Escherichia coli* O157 in Finished Beef Cattle

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As part of a larger study to measure the feedlot pen prevalence effects of *Escherichia coli* O157 on carcass contamination, 15 pens of cattle were sampled from 12 different feedlots in three states. Thirty fresh pen floor samples were collected prior to slaughter. Other variables included sex, days on feed, weight, number, pen condition and feedlot geographic location. Fecal samples underwent standard enrichment, immunomagnetic separation and isolation procedures for *E. coli* O157. Pen level prevalence of *E. coli* O157 ranged from 0 to 77.8%. Eastern Colorado feedlots had an average prevalence of 20.7%, while central Nebraska feedlots averaged 45.3%. Analysis using the GENMOD

Procedure (SAS) was utilized in performing a Poisson regression in which clustering was controlled and generalized estimating equations for modeling were generated. The only significant variable in the model was geographic location and a multivariate model could not be established. Finished beef cattle from central Nebraska were likely to have more positive pen samples for *E. coli* O157 when compared to pens from eastern Colorado (RR = 2.5, 95% confidence interval = 1.1 to 5.8). This study demonstrates that pen prevalence of *E. coli* O157 varies by geographic location, and further investigations to characterize geographic distribution and associated factors should be initiated.