antimicrobial resistance and to identify levels of clustering within the data. Preliminary results show that the use of long-acting oxytetracycline for metaphylaxis on arrival does not result in significant increases in the proportion of antimicrobial resistant fecal *E. coli* isolates. There is no treatment effect of antimicrobial use at the onset of the feeding period leading to antimicrobial resistance evident in the *E. coli* isolates in preslaughter fecal samples.

Conclusions

Preliminary conclusions are that metaphylaxis does not significantly contribute to antimicrobial resistance of commensal *E. coli* isolates from cattle feces at the time of slaughter. The use of antimicrobials late in the feeding period may be of some importance in the development of antimicrobial resistance and its persistence at slaughter.

Diagnostic Testing for Johne's Disease in the Cow-Calf Herd

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Abstract

Johne's disease is caused by *Mycobacterium avium* subspecies *paratuberculosis* (MAP) infection. Public health concerns about the possible link between Johne's disease and Crohn's Disease (and the resulting media attention), along with changes in international trade regulations have elevated the importance of control and management of Johne's disease to a new level. However, very little research on Johne's disease has been done with beef cattle. The objectives of this study were to describe several cow-calf herds with a definitive diagnosis of Johne's disease (histopathology) in at least one animal, and describe the prevalence of MAP within the herd at the time of diagnosis. Furthermore, the longitudinal nature of this study allows comparison of how the prevalence within the herd begins to change when certain control measures are put into effect. Comparisons of agreement will be possible for five different live animal diagnostic tests. Finally, this study also provided the unique opportunity to create a blind comparison of necropsy findings in a batch of cull beef cows in a high-prevalence Johne's herd for determination of the best tissues to examine on necropsy. A herd with a ten-year history of mature cow chronic diarrhea had two cows with MAP infection confirmed on necropsy. This was the inciting incident for the Special Field Investigation Unit at WCVM to become involved in a longitudinal study involving various diagnostic testing issues important in management of this disease. Two other herds were identified through similar means and have been added to the study. Samples were collected during routine fall processing, using Vacutainers for tail vein blood collection. Fecal samples were collected with individual sleeves for each animal. A visual assessment of the animal's general health was also recorded. Prevalence of disease within the herds, age distribution of cases, and changes in the prevalence over time with or without control strategies will be reported. Measures of agreement will be examined for five diagnostic tests including the ELISA, AGID, fecal culture, direct fecal PCR, and PCR on MAP culture slants incubated for six weeks. Procedures for all tests are standardized and performed by blinded experienced laboratory personnel.

Investigators collected fecal and tissue samples from 40 animals culled from a high prevalence Johne's herd. All of these samples were collected at the slaughterhouse and processed in the laboratory by a standardized technique. Culture of feces and histology of ileum, cecum, colon and mesenteric lymph nodes was performed by an experienced blinded pathologist. The prevalence of MAP for all tissues and agreement between tissue findings and culture of feces will be reported.