Incidence of Yearly *Lawsonia intracellularis* Assay Variations From Horses in Kentucky

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Year-to-year variations in positive serologic and molecular *Lawsonia intracellularis* tests were not detected in samples submitted from Kentucky. A significant difference in yearly exposure, however, was noted on farms with endemic equine proliferative enteropathy. Authors’ addresses: University of Kentucky, Maxwell Gluck Equine Research Center, Lexington, KY 40546 (Page, Horohov); Veterinary Diagnostic Laboratory, College of Veterinary Medicine, University of Minnesota, St. Paul, MN 55108 (Gebhart); and University of Kentucky, Veterinary Diagnostic Laboratory, Lexington, KY 40511 (Loynachan); e-mail: allen.e.page@gmail.com. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction
There is the perception that incidence of equine proliferative enteropathy (EPE) varies from year to year in Kentucky. Therefore, the goal of this study was to retrospectively determine whether there are yearly variations in the occurrence of positive tests for *Lawsonia intracellularis*.

2. Materials and Methods
Fecal polymerase chain reaction (PCR), necropsy PCR, and serum immunoperoxidase monolayer assay results from July 1, 2002, through June 30, 2010, were collected and analyzed; only results originating from horses located in Kentucky were included. An *L. intracellularis*–specific ELISA was used to screen weanlings from three EPE-endemic farms.

3. Results
No significant differences in year-to-year variations were detected. The cumulative percentage of all samples that were positive during October through February was significantly higher (*p* ≤ 0.05) when compared with April through September but not March. The overall *L. intracellularis* seroprevalence of three EPE-endemic farms during 2011 to 2012 (61%) was found to be significantly lower than the same time period during 2010 to 2011 (86%).

4. Discussion
This is the first study to compile multiple years of *L. intracellularis* serological and PCR results and to analyze for year-to-year variations. Whereas statewide yearly variations may not occur, yearly variations in farm-specific exposure rates to the bacterium are likely. Given the data provided, October to February appears to be the time period in which positive results are most common in Kentucky.

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