

blocked by gender and birth-weight and randomly allocated to two treatment groups: an interval dose program receiving bi-monthly rotations of pyrantel pamoate and ivermectin beginning at two months of age and a daily deworming group receiving oxbendazole at two months of age, daily rations of pyrantel tartrate feed additive throughout the study, and moxidectin treatments at 9.5 and 16.5 months of age. In addition to collecting the performance parameters of monthly body weights and body condition scores, parasitological parameters, including pre- and post-treatment fecal egg counts (FEC) of *Parascaris* spp. and strongyle family parasites and calculated gel/paste dewormer efficacies were collected. Data were analyzed using mixed linear modeling. Ascarid and strongyle FECs were not statistically different between groups and were only significantly influenced by foal age; strongyle counts increased throughout the duration of the study and *Parascaris* spp. counts peaked at 4.5 months of age. Reduced efficacy of ivermectin and moxidectin against strongyles was observed on two farms respectively with consistently low pyrantel pamoate efficacy on all three farms. Ivermectin also exhibited reduced *Parascaris* spp. efficacy. Monthly body weight converted to average daily gain was not significantly different between groups and was only significantly influenced by age, mirroring the average daily gain reference data for Kentucky Thoroughbreds born in 2013 generated by Kentucky Equine Research. Body condition scores remained in the optimal range (5–6) for the duration of the study and did not differ between groups. This maintenance of optimal performance parameters is likely due to both the excellent immuno-nutritional status of these well-managed horses and the generally low pathogenicity of these gastrointestinal parasites. Both measures of parasitological and performance parameters are useful in evaluating parasite control programs in maintenance of overall equine health.

## 051

### Serological prevalence of *Anaplasma phagocytophilum* in two cities of Minas Gerais State, Brazil

L.G. Prado<sup>1</sup>, M.S. Palhares<sup>2</sup>, A.L.S. Miranda<sup>2</sup>, R.M. Victor<sup>2</sup>, J.A.G. Silveira<sup>3</sup>, M.F.B. Ribeiro<sup>3</sup>

<sup>1</sup>Centro Universitário de Itajubá, Itajubá, Brazil; <sup>2</sup>Escola de Veterinária, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; <sup>3</sup>Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

*Anaplasma phagocytophilum* is the recently emended name replacing three species of granulocytic bacteria, *Ehrlichia phagocytophila*, *Ehrlichia equi* and the agent of human granulocytic ehrlichiosis (HGE), based on their genetic similarity. *A. phagocytophilum* is an obligate intracellular organism that infects predominately white blood cells, especially neutrophils. It is transmitted by ticks such as *Dermacentor (Anocentor) nitens*, *Rhipicephalus (Boophilus) microplus* and *Amblyomma cajennense*. It can affect ruminants, horses, rodents, canids, birds and men. *A. phagocytophilum* is the agent of Equine Granulocytic Anaplasmosis (EGA) in the horse. EGA is currently described as an acute disease characterized by high fever, depression, lack of appetite, hind limb ataxia, distal limb edema, and hematological alterations, such as thrombocytopenia, neutropenia, lymphopenia and mild anaemia. In Brazil, few studies have been conducted regarding epidemiology of EGA, although veterinarians have described several clinical cases of this disease. In order to clarify its epidemiological situation, this study was carried out aiming a serological survey of equids in São Vicente de Minas and Ataléia,

both cities located on the state of Minas Gerais, Brazil. Blood was collected into clotting tubes through venipuncture of the horses' jugular external vein. A total of 84 animals from Ataléia and 88 from São Vicente de Minas participated in the study. Serum was then centrifuged and processed according to the Indirect Immunofluorescence Assay (IFA) protocol. Results showed that 76.16% (131/172) reacted to the IFA test, independently of the sample's city origin. In Ataléia, a prevalence of 70% of reactive animals were found, whereas in São Vicente de Minas the value was of 82%. These results demonstrate that the agent of equine granulocytic anaplasmosis is present in these cities and a high number of equines have been infected by *A. phagocytophilum*. Since EGA clinical signs are not specific, more clinical essays and controlled experiments should be performed. Only then will we better understand *A. phagocytophilum* infection and epidemiology, thus avoiding misdiagnosis and consequential financial losses to breeding farms as well as those to equine welfare.

## 124

### Detection of *Neospora* spp. antibodies in horses from La Pampa, Argentina

M.C. Rojas<sup>1</sup>, G. Moré<sup>2,3</sup>, L.M. Campero<sup>2,3</sup>, M. Fort<sup>1</sup>, H. Giménez<sup>1</sup>, M.C. Venturini<sup>2,3</sup>

<sup>1</sup>Salud Pública Veterinaria, Estación Experimental Agropecuaria "Ing. Guillermo Covas", Instituto Nacional de Tecnología Agropecuaria (INTA), Anguil, La Pampa, Argentina; <sup>2</sup>Laboratorio de Inmunoparasitología, Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, La Plata, Argentina; <sup>3</sup>Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

*Neospora caninum* and *N. hughesi* are apicomplexan parasites affecting several animal species worldwide. Horses have been reported as intermediate hosts of these protozoans. *Neospora caninum* is an important cause of bovine abortion and neurological signs in dogs while *N. hughesi* is reported as potential cause of equine protozoal myeloencephalitis (EPM). Little is known about neosporosis in Argentinean horses. The aim of the present study was to identify antibodies against *Neospora* spp. in horses from La Pampa, Argentina. Serum samples (n=42) were randomly selected from a group of 300 horses belonging to rural areas from La Pampa province, Argentina. All animals were clinically healthy. The samples were processed by 4 serological tests using *N. caninum* antigen: indirect ELISA (CIVTEST HIPRA) with G protein as conjugate; a competitive ELISA (VMRD) proceeding according to manufacturer instructions; indirect fluorescence antibody test (IFAT) and Immunoblot (IB) both using Nc1 strain as antigen. Serum sample from an experimentally infected (Nc1 strain) young horse was used as positive control. Positive serological results were detected as follows: 30% of samples (n=13) by ELISA-HIPRA, 28% (n=12) by IFAT, 26% (n=11) by IB and 16% (n=7) by ELISA-VMRD. A total of 12 samples resulted positive to 2 or more tests. Most of the positive samples (n = 9) were seropositive by IFAT and IB. Considering the positivity to these 2 tests as "true positive", 21.4% of horses showed antibodies against *N. caninum* antigens. Since potential cross reactions between *Neospora* spp. are plausible we considered the detected antibodies as genus-specific. Further studies should be conducted with specific *N. hughesi* serological tests for specific differentiation of the immunological responses observed. The present study is the first report of *Neospora* spp. antibodies detection in Argentinean horses. The seropositivity rate detected suggests that horses from La Pampa have a frequent contact with *Neospora* spp. Future studies will be conducted in horses with clinical signs.