



MSc. Defence

The Use of Dietary Probiotics in Horses: Microbial Activity during Antibiotic Treatment and Bacterial Characterization

Maria Lagounova

Date: August 9th 2022 at 9:00am

The MSc Defence for Maria Lagounova has been scheduled for August 9th, 2022 at 9:00am. The defence will be held online via Teams and room 141: [https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_YzYwZmUzNjktNWZjNi00ZTY3LWI4YTktYzgxNzU1MTQxYTRk%40thread.v2/0?context=%7b%22id%22%3a%22be62a12b-2cad-49a1-a5fa-85f4f3156a7d%22%2c%22oid%22%3a%22bd28915-dda5-478f-8ecb-a3682dcf0c3a%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_YzYwZmUzNjktNWZjNi00ZTY3LWI4YTktYzgxNzU1MTQxYTRk%40thread.v2/0?context=%7b%22id%22%3a%22be62a12b-2cad-49a1-a5fa-85f4f3156a7d%22%2c%22oid%22%3a%22bd28915-dda5-478f-8ecb-a3682dcf0c3a%22%7d)

**The exam committee will consist of:**

Examining Chair: Dr. Dom Bureau

Advisor: Dr. Wendy Pearson

Adv. Committee Member: Dr. Scott Weese

Additional Graduate Member: Dr. Kate Shoveller

**Abstract:**

Probiotics are a common supplement used in the equine industry despite lack of evidence for their efficacy. Probiotics are often provided to horses receiving antibiotics to protect against adverse effects such as a gut microbiome disturbance that can lead to gastrointestinal diseases. The purpose of this thesis was to evaluate the effect of probiotics in horses receiving concurrent antibiotic treatment. Sixteen horses were used in a four-way crossover design and given either 10 days of antibiotics, 28 days of probiotics, a combination of both, or none. Fecal samples were collected and analyzed for DNA sequencing, fecal scores, fecal pH, and fecal dry matter. Probiotics samples were also collected and cultured to determine bacterial species and populations. The study concluded that probiotic-supplemented horses experienced increased relative abundances of fiber-degrading bacteria such as *Ruminococcaeae* and *Fibrobacter*; and decreased the fecal pH.