A Stable Gut: The Key to a Healthy Equine

Gastrointestinal issues (GI) are the number one cause of morbidity in horses other than old age. An unhealthy digestive system can cause poor performance, pain, discomfort, diarrhea, and a whole host of issues that can sideline your horse. It’s no wonder researchers are paying close attention to the ‘second brain’ and its billions of inhabitants. Ontario Veterinary College (OVC) researcher, Dr. Luis Arroyo has been studying the equine gastrointestinal systems for many years with several research projects receiving funding from Equine Guelph. Arroyo discusses what we know about equine gut health, causes of GI disorders and the extensive continuing research to understand what unstable and stable gut populations look like.

Starting with some basic anatomy Arroyo says, “The gastrointestinal track of a horse is extremely large, and there are many things that can cause disturbances to the normal functioning or health of the gut.” A healthy gut microbiome is essential for the horse’s entire body to function optimally.

Common signs of disorders could include abdominal pain, bloating, changes in fecal consistency (including diarrhea or constipation), excessive drooling, decrease in water consumption, lack of or poor appetite, weight loss and low body condition score.

“Some cases are more obvious to owners,” says Arroyo, “like poor performance, or acute or chronic diarrhea.”

Changes of behaviour such as becoming cranky or moody can be tell-tale signs there is unrest in the GI system. Biting at the flanks can signal abdominal pain as well as reactivity to being saddled. When the horse stops wanting to perform and athletic abilities suddenly decline, if there is no obvious lameness, GI issues are high among the considerations.

“Horses are herbivores, designed to consume a diet of forage, and to break down complex sugars within that forage.” says Arroyo. “The gut microbiota does this job and is very important for healthy digestion.” Recent research is connecting the changes in diversity of microbial communities to conditions like colic, colitis, and gastric ulcers.

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Exciting new research that could impact the future of diagnostics includes screening for biomarkers as indicators of intestinal health among equine microbiota. Dr. Arroyo is currently working with research partner, Dr. Marcio Costa, from the University of Montreal, looking for biomarkers that indicate changes in the inhabitants of the equine gut that take place during the early onset of illness.

Developing PCR testing to screen for biomarkers could be a game changer that could potentially provide speedy, economical early diagnostics and early treatment.

So far, the most remarkable finding in the preliminary data reveals that in horses with colitis, the whole bacterial population is very depleted.

“At this stage we are in the process of increasing our numbers to find significant differences in which bacterial taxa are more important,” says Arroyo. “Soon we hope to share which bacteria taxa are more promising for predicting dysbiosis in horses with gastrointestinal disease.”

The researchers are delving into a huge biobank of samples to identify potential markers of intestinal dysbiosis in horses, utilizing PCR testing as a faster and more economical alternative to the complex DNA sequencing technologies that have been used to characterize changes in microbiota thus far. The goal is to develop simple and reliable testing that veterinarians can take right to the barn that will result in early treatment and allow closer monitoring of horses at the first onset of GI disease.

Read the full article including: causes of GI issues, current diagnostics, top tips to protect digestive health, and more about GI research at: https://thehorseportal.ca/2024/01/a-stable-gut-the-key-to-a-healthy-equine/

-Story by Jackie Bellamy-Zions

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