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Parasite Control

Parasite control has changed dramatically in recent years. Previously popular rotational deworming programs were designed in the 1960s to address large strongyles, the primary parasite of concern in horses at that time. These types of programs recommended deworming horses 4-6 times a year and rotating between the 3 classes of chemical dewormers we have available. This type of deworming program was very effective at addressing large strongyles, so much so that they are rarely a problem today. However, a different type of parasite, small strongyles, have emerged as the prominent parasite found in adult horses.

Small strongyles have developed resistance to all 3 classes of dewormers we have available, and this resistance is likely a result of rotational deworming programs. There are currently no new deworming drugs being developed, which means that we need to take steps to ensure the dewormers we currently have available remain effective as long as possible. Thus, there is a need for a change in the way we think about parasite control in horses.

As the American Association of Equine Practitioners outlines in their Parasite Control Guidelines, current parasite control programs need to keep 3 goals in mind:

1. To minimize the risk of parasitic disease.
2. To control parasite egg shedding.
3. To maintain efficacious drugs and avoid further development of anthelmintic resistance as much as possible.

Small strongyles only produce clinical disease in horses when they are present in very high numbers. Other common parasites in horses include tapeworms, ascarids, pinworms, and bots. Deworming plans should take these parasites into consideration as well as small strongyles. The goal is not to eliminate all worms from the horse, but to keep each horse's parasite load low enough to not cause illness. To keep horses' parasite loads low, we need to decrease egg shedding in manure and pasture contamination which then leads to reinfection. Surprisingly, there is significant individual variation in number of eggs shed in manure from horse to horse, independent of environmental conditions. Most horses shed low numbers of parasite eggs, but a few individual horses can shed very high numbers of eggs and be major contributors to pasture contamination. About 20% of the horse population produces about 80% of the parasite eggs shed in manure.

Annual fecal egg counts help us to identify which horses are low, moderate, or high egg shedders, and we can individualize a deworming protocol based on these numbers. Most horses will fall into the category of low egg counts and can be dewormed just twice a year, a dramatic reduction from previous protocols. Horses that fall into the category of moderate or high shedders should be dewormed 3-5 times a year, depending on other factors such as weather conditions. Using this type of strategic deworming based on fecal egg counts is effective in keeping parasite loads below the threshold of causing clinical disease, decreasing the parasite eggs shed on pastures by targeting high shedders more frequently, and by identifying horses that only need to be dewormed twice a year, decreasing the overall use of dewormers to slow the development of parasite resistance to dewormers.

Climate and weather conditions also play an important role in designing a deworming plan. In cold weather (below 40°F), parasite eggs do not mature to the infective larval stage, so there is little risk for reinfection in winter months. In the Midwest, horses should be dewormed after a hard frost in the fall, and then not again through the winter until spring when there have been 60 days of warm weather. Very hot weather will kill or slow the development of eggs and larvae on pasture, so hot summer months have a lower risk for horses to be reinfected than the more temperate spring and fall months, which are ideal for parasite growth and development. This is why spring and fall are the most important times to deworm adult horses.

Foal and Weanling Parasite Control

In foals and weanlings, ascarids are the most prevalent parasite. Most dewormers are labeled by weight for the dose to treat small strongyles, and the dose for ascarids is double the label dose. So, foals and weanlings should be dewormed with fenbendazole (Panacur) or oxbendazole (Anthelcide) every 60 days dosed at twice their weight, with fecal egg counts being performed as recommended by your veterinarian. Horses develop immunity to ascarids by 1 to 2 years of age, so are not typically seen in healthy adult horses.

Fecal Sample Collection Tips

- Samples need to be fresh (less than 4 hours old) when collected and refrigerated (not frozen) immediately after collection
- Store in an airtight container
- Label container with the horse's name, date sample was collected, the date last dewormed and the name of the product used.
- To categorize a horse as a low, moderate, or high egg shedder, test at least 8 weeks after a dewormer has been administered
- To determine whether a specific dewormer is effective, test before deworming and 14 days after deworming to check for adequate reduction in egg count