An Update on Deworming Your Horse

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So, you think you know all about deworming, right? You do what your vet has been telling you to do for the last twenty years: deworm every two months, rotating between classes of dewormers with each treatment. And your goal is to kill all the worms in your horse's intestinal tract. Would it surprise you to know both of these ideas are quickly becoming outdated and that you might be able to safely skip four of those six dewormings per year?

It is a common misconception that the main objective of deworming is to kill adult worms that are living in the horse. Although controlling the parasite load in our horses is important, another integral objective of parasite control is to prevent environmental contamination and therefore decrease transmission and re-infection. And while rotation of dewormers was long considered a way to prevent resistance, we're finding it's a little more complicated than that.

Appropriate deworming care is becoming more strategic and should be customized to your individual horse's parasite burden and environment. And the key to this program is fecal testing. Let's start with some background on equine parasites:

The parasites that infect horses that are the target of dewormers are large and small strongyles, roundworms, pinworms, and tapeworms.

Recent studies have presented the following information:

1. Large strongyles have mostly been eradicated from well-managed herds.
2. There are only 3 classes of anthelmintics (dewormers) that are available for use in horses:
    a. Benzimidazoles – Fenbendazole (Panacur) and Oxybendazole (Anthelcide)
    b. Macrocyclic lactones – Ivermectin and Moxidectin (Quest)
    c. Pyrimidines – Pyrantel (Strongid)
3. Most small strongyle populations (which are the most significant worm of mature horses) are resistant to at least 1 class of dewormers (benzimidazoles) and about 50% are resistant to 2 classes (benzimidazoles and pyrimidines)! A recent survey in SE United States found that the small strongyle population in 95% of herds were resistant to Panacur, in 53% of herds were resistant to Anthelcide, and 40% of herds were resistant to Strongid. They also found indications that resistance to Ivermectin is developing in some small strongyle populations.

Deworming every two months may be excessive and helps breed parasites that are resistant to certain dewormers. Arbitrary rotating of dewormers may not be the best therapy for your horse (if a horse owner routinely uses Panacur to deworm but their horses are infected with a type of strongyle that is resistant to Panacur, then money is wasted, the resistant strongyles persist, and the horse is still carrying a large parasite load). Even if a farm's parasite control program is effective, a new addition to the herd can bring along a resistant strain of parasite, which can quickly infest the remainder of

your herd. Also, each horse has a slightly different immune system and can differ in their parasite susceptibility. While some horses may develop heavy infections with parasites, others have natural immunity and require less frequent deworming.

Facts:

1. Each horse should be dewormed every 6 months with an Ivermectin product (Spring and Fall). Ivermectin is a larvicidal (will kill parasite larvae), and if used every 6 months on each horse, large strongyles will be eliminated from your farm. When you introduce a new horse to your farm, deworm them immediately with Ivermectin, then stall them for 4 days to avoid contaminating your farm. After that, implement them into your other horse's deworming schedule.
2. Horses develop immunity to roundworms, so infection is most commonly seen in foals and weanlings (they are usually immune by 1 year of age). The worms can cause significant damage to your foals, so deworming while they are young is important. Also, the eggs persist for a long time in the environment (up to 10 years!), so preventing environmental contamination is essential. Start deworming at 60 days of age.
3. Ivermectin has shown some treatment failure in pinworms – researchers are unsure whether this is due to resistance of parasites to this drug or that the dose of Ivermectin is not efficacious against the worms. Pyrantel pamoate is typically effective for pinworms.
4. Little is known about tapeworm biology and transmission. Praziquantel and Pyrantel pamoate Paste (double dose of normal Pyrantel) are effective against these worms.

This leaves small strongyles as the major parasite to be concerned about in adult horses. This is the most common parasite found on fecal examinations of adult horses in our practice. As previously mentioned, small strongyle drug resistance is a significant problem throughout the world. With only 3 classes of drugs to choose from, parasite resistance is of great concern. Though we recognize the following recommendations are more labor intensive than the previously suggested bimonthly (every 2 month) dewormings, in the long run this may prove a more economical, efficient, and healthy way to maintain your horse's parasite load.

Recommendations:

To determine which dewormers are effective on your horses (to be sure there is no resistance to dewormers on your farm):

Have your vet perform a fecal examination on all of your horses (if you have a large herd, 10% of the horses would be representative). Treat all the horses with an accurate (labeled) dose of one class of dewormer. Two weeks after deworming, have your vet perform recheck fecal exams. With this information, we will be able to determine if the anthelmintic you used is effective or if parasites are resistant. If the parasites are resistant, we will know not to include that class of dewormer in your farm's protocol, since it will not do the job.

To determine how often individual horses in your herd need to be dewormed:

20-30% of the horses in a herd carry the majority of your horses parasites and are responsible for contamination of your farm with parasite eggs. This can be due to innate resistance and genetic variance. To pinpoint these horses, we recommend having your vet perform a fecal examination on every horse on your farm after a long respite from deworming (3-4 months after a previous deworming). From this information, we can determine which horses carry a high, moderate, and low load of eggs (and therefore their potential for environmental contamination). We can then develop a tailor-made deworming protocol for each horse on your farm. This will save you money, prevent over-treating certain horses, save you money on dewormers, and help decrease parasite drug resistance.

Pasture Maintenance:

In pastures, horses will collectively tend to defecate in one area (overgrown pasture) and eat in another area (grazed pasture). Overpopulating and overgrazing will increase parasite transmission by forcing horses to eat where they go to the bathroom. Also, dragging pastures will transfer all the eggs and larvae that are isolated in the "bathroom area" to be spread over the pasture to the horse's "dining area". If you are going to drag your pasture, be sure to do it in the summer and leave the pasture empty for several weeks after dragging. Frequently picking up and disposing of manure in the pasture instead of dragging may be a better option.