

Generations of horses have been put on regular rotating deworming schedules by their well-meaning owners and caretakers. Today's standard deworming practices originated in the 60's when the first dewormers were available, changing somewhat in the 70s and 80s when new products were introduced and rotation of products was recommended. Unfortunately, equine parasites have risen to the challenge and are becoming resistant to our deworming medications.

According to Dr. Ray Kaplan at the University of Georgia, a recent speaker at the Horse Breeders & Owners Conference, we need to decelerate further development of drug resistance and extend the life of our current dewormers. How? By moving away from our fixed schedules and rotations and treating the right horse with the right drug at the right time.

Dr. Kaplan reminds us that horses have evolved with intestinal parasites and, in small numbers, most worms do not pose a threat to equine health and actually help to stimulate immunity to more serious worm burdens. In addition, all horses are not created equal when it comes to parasites with 20-30% of the horses harbouring 80% of the worms. What does this mean? That despite our best intentions, some of our horses are being under-treated and others over-treated.

For about the same cost as a tube of dewormer, a horse owner can have a fecal egg count (FEC) performed, which will tell them the amount and type of parasites and from there determine the need for treatment. Some may argue that paying for a test and then having to pay for a tube of dewormer anyway is doubling the cost. However, the cost of FEC must be seen as necessary to maintain optimal health and reduce the risks of drug resistance. Millions of tubes of dewormer are being administered to horses every year that are killing very few parasites either because there are very few worms in the horse to kill, or because the drug is ineffective as a result of resistance.

So, when and how to treat?

The following sample anthelmintic treatment proposal is based on the following premises:

- a/ all parasites are transmitted seasonally
- b/ each parasite has its own life cycle
- c/ the larval forms are the most pathogenic
- d/ different dewormers have varying efficacies on different worms and stages of worm development.

The goals of the following program are to: (1) keep fecal egg counts low to reduce worm transmission; (2) kill all important parasites at the correct time of the year; and (3) reduce the development of drug resistance.

April 1: Fecal egg count on all horses.

Treat all horses with fecal egg counts greater than 500 with moxidectin.

Treat the rest of the horses with ivermectin or moxidectin.

This is probably the single most important FEC to perform all year. By not deworming for several months over the winter and early spring, the FEC result will be a strong indication of each horse's true contaminative potential. Based on this FEC you can then categorize your horses to low (500).

June 1: *Only if treated with ivermectin in April, if moxidectin was used, wait until July 1.*

FEC on all horses with an April count of 150-500. No counts needed on horses with numbers greater than 500 or less than 150 in April.

Treat all horses greater than 150 with oxibendazole and or pyrantel (assuming that we do not have resistance).

July 1: FEC as in June description if not done in June.

Treat all horses with April fecal egg counts greater than 150 with oxibendazole and/or pyrantel.

Aug 1: FEC on all horses. This tells you how well your summer program is working -- it is important to keep egg shedding to a minimum at this point in the summer.

Using moxidectin in high egg shedders and ivermectin in the others is a good option but either can be used in all horses.

Oct 1: *Only if treated with ivermectin in August.*

No fecal egg counts needed.

Treat high egg shedders with oxibendazole and or pyrantel.

Nov 1: No fecal egg counts required.

Treat all horses with a double dose pyrantel to get tape worms. Praziquantel is the most effective drug for tapeworms, but is only available in combination with ivermectin or moxidectin which are not needed at this time of year due to cold.

November to April: No deworming or fecal egg counts required.

During the first two years of implementing this program it is important to perform fecal egg counts at fairly regular intervals. After about two years of monitoring, you will learn which drugs work and which do not, which horses are high egg shedders and which always have very low or 0 fecal egg counts. With this information, a more simplified program can be designed in which horses are grouped into (1) high, (2) moderate, or (3) low egg shedder categories. Horses within each group can then receive the same program. Once a program is established, two fecal egg counts per year are all that should be required.

For young horses up to 18 months of age.

Regular fecal egg counts on all young horses is critical.

Start deworming at 2 months of age.

Continue treating at least every 6 months until 2 years old with regular FEC surveillance.

There is a resistance to ivermectin/moxidectin in many instances by the round worms (ascarids) and to oxybendazole /pyrantel by small strongyles, thus it may be necessary to treat young horses with full doses of a combination of these two drugs

All young horses between 6 months and about 2 years of age will likely benefit from receiving a larvicidal treatment once per year. In most situations, moxidectin would be the recommended

for this treatment, but 5-day 2X fenbendazole (Power Pack) can also be used.

Very frequent treatment of foals (every 3-4 weeks), as is often done on some farms, does not ensure adequate parasite control because the drugs may not be working at expected levels due to resistance.

This article is presented as a summary of Dr Ray Kaplan's 2009 Horse Breeders & Owners Conference (HBOC) presentation to give horse owners a better understanding of the rethinking on parasite control in horses. (Dr Kaplan's complete article is available in the 2009 HBOC Delegate Manual).

Parasite treatment programs should be managed in consultation with your veterinarian.