Targeted Deworming – a New Approach to Equine Parasite Control

Horses evolved with intestinal parasites. Small numbers of worms do not cause a significant health problem in horses, and actually stimulate the horse's immune system to encourage resistance to a heavier worm burden. Therefore small numbers of worms may actually enable the horses to resist heavier and potentially more serious parasite infestation.

The real object of a parasite control program should be to lower (but not eliminate) the adult worm burden. More importantly, it should strive to prevent contamination of the horses' environment with eggs.

At this time, small strongyles are the most prevalent parasite of older horses. They are also becoming increasingly resistant to all the chemicals we currently use. Tapeworms, bots, large strongyles, and pinworms are also important parasites in older (>18month) horses. In young horses, roundworms are also very important. These other parasites are also showing resistance to all classes of dewormers that we currently use. There are no new chemicals being developed for future use.

Research has shown that about 20 -30 % of the horses in a herd harbor most of the parasites and up to 50% of the herd control parasites by natural means. Deworming those individuals with low worm burdens will not benefit them; since they produce very few eggs, they also do not contaminate the pasture. Deworming should concentrate on those horses which have consistently high worm burdens.

In our area, winter conditions decrease the maturation of parasites in the pasture, and very hot, dry condition in summer will also slow transmission. We need to concentrate our efforts on treating the correct individuals at the correct time.

OVERTREATING HORSES PROMOTES DRUG RESISTANCE AND WASTES MONEY

Pointers

1. Try to save the big gun (moxidectin) by not deworming with it too frequently – save it for horses that are high shedders.
2. Reduce fecal contamination of pastures by picking up manure. Harrow or spread manure only in summer, when it is hot and dry, in order not to spread high numbers of eggs and larvae around. Rotate pastures if possible. Try to prevent over stocking.
3. Horses with low fecal egg counts (200 eggs per gram) may not need to be dewormed more than twice a year, while high shedders (> 500 eggs per gram), may need to be treated 6 times.
4. Do fecal egg counts and deworm all new arrivals before they contaminate pastures.
5. Use correct dosages – use a weight tape so that you are not under dosing.
6. Check to see if a particular dewormer is effective on your farm. Do egg counts on 10% of your horses, treat with a dewormer and then recheck the same horses in 14 days. If the reduction in numbers is less than 80%, the parasites your horses have are resistant to that dewormer, and you should <u>not</u> use that dewormer singly on that farm again. Combinations may still be effective.

Deworming Program for Mature Horses (over 18mo)

April: Start of worm control cycle in MD

Fecal Egg Count? Yes – on all horses, before deworming – to find each horses level of small strongyles. Then each horse can be classified as low (<150epg), moderate (150-500epg) or high (>500epg) egg shedders.

Deworm Which Horses? All

Which drugs? Ivermectin (for most horses) or Moxidectin (only on horses with high (or history of chronically high) fecal egg counts. A product containing Praziquantel could also be used at this time for tapeworms (If it was not used the previous fall).

Why? Cold weather conditions are over; eggs and larvae can now survive on pasture.

June (for horses treated with Ivermectin in April)

Deworm Which Horses? Only those with a fecal egg count >150epg in April

Fecal Egg Count? Yes – but only on horses being treated – 10-14 days after deworming to check for resistance.

Which drugs? Oxibendazole and Pyrantel in combination (dose both dewormers as per label directions)

Why? ERP of Ivermectin is ~8wks, therefore horses treated with this in April will have eggs reappearing. Using both Oxibendazole and Pyrantel together is more effective than using either one separately.

July

Fecal Egg Count? Yes – on all horses, before deworming

Deworm Which Horses? All

Which drugs? Ivermectin or Moxidectin (try to "save" Moxidectrin for high shedders)

Why? ERP of Oxibendazole/Pyrantel used in June is 4 wks, ERP of Moxidectin (if used in April) is ~12 weeks. Timing for both ERP's is now.

September (Only for horses treated with Ivermectin in July)

Fecal Egg Count? Only on horses with >150epg result on July FEC, before deworming

Deworm Which Horses? Only horses with FEC > 150epg now.

Which drugs? Oxibendazole and Pyrantel

Why? Using both together improves effectiveness

October

Fecal Egg Count? On all horses not dewormed in September, test before deworming
Deworm Which Horses? Only horses with FEC > 150epg now.
Which drugs? Oxibendazole and Pyrantel
Why? ERP of Moxidectin (if used in July) is ~12 weeks. Using both Oxibendazole and Pyrantel together improves effectiveness

Late November (after 1st frost if possible)

Fecal Egg Count? On all horses before deworming
Which Horses? All
Which drugs? Ivermectin with Praziquantel or Moxidectrin with Praziquantel
Why? Tapeworms, Bots

Legend

FEC = Fecal Egg Count
EPG = eggs per gram
ERP = egg reappearance period (differs for each type of dewormer, in adult horses: 4 wks for Bendazole and Pyrantel (IF no resistance), 8 wks Ivermectin, 12-16 wks Moxidectin)

Deworming Program for Horses under 18 months

1. Start deworming at 60 days.
2. Rotate among all effective dewormers (check for resistance as above).
3. Schedule treatments at the maximum possible interval – young horses may have egg reappearance 30% faster than older horses. This may mean slightly shortening the interval for deworming as compared to adults.
4. Horses acquire excellent immunity to roundworms by the age of 18 months, so after that, you may treat them as the older horses above.