



Northeast Pennsylvania Equine Clinic, L.L.C.

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WINNING THE PARASITE BATTLE

Equine parasite control is complex and requires consideration of many factors. Parasite resistance to dewormers has been documented in multiple types of worms, largely the result of over-worming horses. Resistance is a growing problem, with no new drugs on the horizon. **Modern parasite control involves 1) the identification of the individual horses that carry and shed the highest numbers of parasite eggs, 2) testing for drug resistance and targeting the specific horses and types of parasites that are identified.** Along with improved farm management, the health of the horse is protected without unnecessary exposure to chemicals, and the contamination of your stable area and pastures with parasite eggs is dramatically reduced. *Your equine veterinarian is the most qualified to help you select and oversee a program that protects the health of your horses and meets the needs of your own individual horse facility considering:*

Efficacy. Are the dewormers you are choosing effectively ridding your horses of parasites? Dewormers vary in their degree of efficacy against the various equine parasites (even though the parasites may be listed on the box). Are you sure you are choosing one which is highly effective (95 to 100% effective) against the parasites affecting your horses? Be aware that resistance has been shown to develop in all classes of dewormers. Have you tested for parasite resistance on your farm to the dewormers you are using? Remember also that all products have their limitations. An example is that ivermectin (Eqvalan or Zimecterin) is not the drug of choice to eliminate ascarids, a serious threat to young horses. There are a number of less common species of equine parasites that can infect horses that are not killed by commonly used anthelmintics (anti-parasitic drugs). Tapeworms and coccidia are examples. Most dewormers are not effective against tapeworms. Some generic dewormers have been found to contain less than the amount of active ingredient on the label. NPEC recommends not using generic dewormers.

Safety. Pregnant mares, foals, debilitated animals, horses which have had recurrent uveitis (moon blindness), and horses prone to colic need to be dewormed with special caution. If you have horses in any of these categories, your veterinarian should be consulted.

Identification of high shedding horses. Modern research has found that 20% or so of horses shed approximately 80% of the parasite eggs! High-shedding horses will need more frequent deworming with effective products (usually 6 times per year). Low shedders can be effectively managed with twice yearly deworming with reduced cost to you!

Proper rotation of anthelmintics and development of parasite resistance. Three common errors are: over-rotation (changing products too frequently), failure to rotate products and failure to choose products from different classes of anthelmintics when rotating. Deworming intervals are based on life cycle lengths of parasites and the egg reappearance period (ERP of the dewormer). Parasite resistance is identified by the use of fecal examinations in the lab.

Consideration of the time of year. Parasite life cycles should be considered when determining when to deworm. Changing weather patterns also effect parasite transmission.

The specific needs of your farm. Deworming programs should reflect your farm history, the number and ages of horses on a premise, types of parasites and resistance patterns identified, housing and management practices, as well as financial and compliance capabilities.

Use of fecal examinations. Manure samples are tested in the laboratory to detect parasite ova (eggs). Horses should be tested at least 4 months after treatment with moxidectin, at least 3 months after treatment with ivermectin, and at least 9 weeks after treatment with pyrantel or benzimidazoles in order to assess each horse's susceptibility to parasites without the aid of dewormers. Heavy shedders should be dewormed 5-6 times per

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year, low shedders 2-3 times per year. Fecal testing is also done to aid in the selection of the most effective anthelmintic and to monitor the effectiveness of your chosen program. Fecal egg counts before and after deworming is very advisable to test for parasite resistance to dewormers. A sample of manure collected 10 to 14 days after deworming should show a 90% or better reduction in the number of parasite eggs as compared with a sample collected just before deworming. It is very advisable to test new arrivals at your farm as soon as possible before turning them out in order to limit contamination of your horse(s)' environment. If once a year testing is desired, midsummer would be a strategic time to test. Collect a fecal sample during the week prior to your next planned deworming. Collect 1 to 3 balls of manure and put it in a sealed plastic bag. Refrigerate until the sample is submitted. Submit the sample within 24 hours.

Access to new data concerning anthelmintics and deworming programs. Use your veterinarian to help you understand and apply new information from scientific studies and anecdotal reports every year.

Sample deworming schedules which can be used as a starting point

- ❑ Moxidectin (Quest) in March
Ivermectin (name brand such as Eqvalan, Rotecterin 1, Zimecterin, Equell or Equimecterin) in June
Pyrantel (Strongid) or Oxibendazole (Anthelcide) in August & September. Split herd or use each type every other year.
Ivermectin/Praziquantel (Equimax, Zimecterin Gold, or Quest Plus) in October
Fenbendazole – double dose for 5 days (Panacur Power Pack), alternatively Quest in December
- ❑ Strongid C2X daily in the feed with:
Equimax in November
Ivermectin in April.
- ❑ Equimax in January
Quest in April
Ivermectin (name brand) in July and October
- ❑ Equimax in November
Strongid in February
Quest in April
Ivermectin (name brand) in July
- ❑ Equimax in November and Ivermectin (name brand) or Quest in April. This would be a minimum program for one to a small number of adult horses on a large clean pasture.

Sample Program for Foals

- ❑ Deworm broodmare 4-6 weeks before foaling with Strongid
- ❑ Deworm broodmare 1-2 days after foaling with name brand Ivermectin
- ❑ Deworm foals with Strongid paste at 2 months, 3 months & 4 months and with name brand ivermectin at 6 & 8 months substituting in ivermectin/praziquantel for tapeworms in late fall/early winter
- ❑ Six times per year deworming for weanlings and yearlings should reflect proper rotation and egg reappearance rates of the dewormers and specificity for the problem parasites on the farm. Consult your veterinarian.

Chemical control using dewormers is just one part of a complete parasite control plan. As parasites are primarily transferred through manure, good management is essential.

Management Checklist

- ❑ Limit the number of horses on a pasture ideally to one horse per 2 acres to prevent overgrazing and reduce pasture contamination with parasite eggs and larvae.
- ❑ Pick up and dispose of manure regularly, at least twice weekly.
- ❑ Do not spread manure on pastures. Compost manure in a separate area. Extension Agents can advise regarding composting.
- ❑ Mow pastures 3” to 8”. Make at least one cutting of hay off some of the pastures.
- ❑ Harrow pastures to break up manure piles and expose parasite larvae to heat and drying. Keep horses off for several weeks. Rotate your horses onto different pastures
- ❑ Keep visiting horses separate and deworm new arrivals before joining your horses.
- ❑ Keep broodmares, foals and weanlings separate from older horses on the cleanest and least grazed areas and deworm this group according to their increased susceptibility to parasites with advice from your veterinarian.
- ❑ Separate yearlings from foals and weanlings.
- ❑ Use feeders for hay and grain rather than feeding off the floor. Keep feeders and waterers clean of fecal contamination.
- ❑ Remove bot eggs from the horse’s hair coat.
- ❑ Cross graze pastures w/cattle, sheep or goats.

Consult your veterinarian to set up an effective deworming program and to monitor its effectiveness with periodic fecal examinations.