PennState Extension

Managing Equine Parasites – The New Protocol

Parasite control is an important component of all equine health care programs. However, it is no longer enough to simply pull out a tube of dewormer and deworm your horses every eight weeks. Today it is critically important to understand the basics of parasite resistance and develop a deworming program that will work for your farm. That program will need to be re-evaluated and modified as environmental conditions change from year to year, and farm management and number of horses change. It is imperative that all horse owners begin to combat resistant parasites that can spread from farm to farm, causing alarming consequences for the equine community. Resistance is a real threat. With no new products on the horizon, it is important to protect our horses by keeping current products effective.

What is resistance?

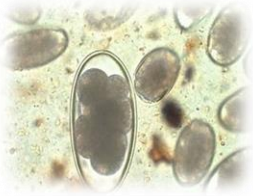
Resistance is defined as the ability of parasitic worms in a population to survive a treatment that was once effective against the worms. Today most horse owners continue to follow recommendations that are 30 to 40 years old and may be using products that are totally ineffective. The ground work for resistance was already in place in the late 1960's when new deworming products were introduced along with the recommendation that horse owners should use them every 8 weeks. Prior to the introduction of these products, the large strongyle was the parasite of greatest concern. These large parasites migrated through arteries, interrupted blood supply to the gut and were capable of causing colic and sometimes death. The use of the drugs of the 1960s and newer products of the 70's and 80's greatly reduced the prevalence of large strongyles on farms. Unfortunately, indiscriminate use of these products has led to a drastic increase in small strongyle parasites.

Small strongyle larvae are very small - virtually microscopic in size. Hundreds can live in a droplet of water on a blade of grass. Populations of these parasites on farms can be very large - billions of larvae can occur in pastures. A single female worm can shed 100,000 eggs. Because of their rapid reproductive rate and ability to produce massive numbers of eggs, it is very easy for resistant worms to develop quite quickly. And the more frequently deworming products are used, the quicker the resistant parasite levels will build. Normally there are very few resistant worms on a farm. Each time deworming products are used, the worms that are susceptible to the product are killed. Only the resistant worms survive to shed their eggs on the pasture. Horses graze and pick up resistant larvae and then shed more resistant worm eggs. Over time the whole population on the farm is resistant. It is very important to stop deworming all the horses on the farm and allow low shedders to release eggs that will develop into parasites that can be killed by the dewormer.

The old way of deworming horses is not working – so what should you do?

1. Conduct fecal egg counts on adult horses, yearlings, and two year olds once or twice a year. This will allow you to identify high shedders and low shedders. Most horse have very good immunity and do not maintain high numbers of small strongyles. It is estimated that 80% of the eggs come from 20% of the horses on a farm. Low shedders tend to remain low and high shedders tend to remain high. A fecal egg count of zero does not mean that the horse is parasite free. The horse may have encysted small strongle larvae or adult worms that are not shedding eggs and may harbor parasites other than small strongyles.

2. Focus deworming efforts on high shedders to reduce eggs that contaminate pastures. Generally horses should be targeted for deworming if the egg count exceeds 300 eggs per gram. In order to reduce the development of resistant parasites, horses with low to moderate fecal egg counts should not be routinely dewormed.



   - Low Shedders: 0-200 eggs per gram
   - Moderate Shedders: 200 – 500 eggs per gram
   - High Shedders: >500 eggs per gram

3. Find out if the dewormer you are using is still working on your farm. If the parasites have developed resistance to the product it will no longer be effective. Evaluate the efficacy of the dewormer by conducting a fecal egg count reduction test. Determine the % reduction in egg shedding by conducting fecal egg counts before and 14 days after deworming all the moderate to high shedders. Report % reduction as an average of all horses on the farm that were used in the test. Reduction in egg shedding should be 90% to 95% depending on which type of dewormer is used.

What else should I consider when developing a deworming program for my horses?

A basic foundation of anthelmintic treatments should be considered for all mature horses on the farm. A deworming program for mature horse generally consists of one or two yearly treatments. Focus deworming treatments during times of peak transmission – usually spring through fall. Choose a product that is known to be effective on your farm. An autumn treatment is usually recommended for all horses and should provide control of strongyles, bots, and tapeworms. Ivermectin plus praziquantel is labeled for control of all three types of parasites. Moxidectin plus praziquantel is labeled for encysted larvae and should be considered for chronically high shedders. Conduct fecal egg counts and selectively deworm high shedders throughout the year.

What about young horses and foals?

Yearlings and two year olds have a greater risk of parasite infection and disease due to reduced levels of immunity. They should be treated as "high" shedders, using 3-4 yearly treatments based on fecal egg counts and product efficacy.

Foals and weanlings are very susceptible to parasite infection since their immune system is not fully developed. Targeted deworming based on fecal egg counts is not recommended for this age group. Ascarids are the main parasites of concern in foals and can cause serious health issues. Very specific deworming protocol has been established for foals and weanlings. Great care should be taken to ensure that the foals are dewormed with the correct product at the appropriate time.

In summary – what are the key components of the "new" protocol in parasite management?

- Conduct fecal egg counts and deworm horses based on the parasite burdens of individual horses.
- Use products with proven efficacy.
- Administer products at the appropriate time of the year.
- Adopt good farm management practices to reduce parasite burdens in the pastures.
- Always involve your veterinarian when developing a deworming program for your horse.

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