



## Controlling Internal Parasites in Horses



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### What farm management practices should be implemented to reduce my horse's exposure to parasites?

Parasite infection occurs when eggs passed in the horse's manure hatch into larvae that crawl up the grass and are then eaten. This larval development and survival is temperature dependent, occurring between 42°F and 100°F and optimally when temperatures average 77°F. Horses in our area are at greatest risk of infection from spring through autumn.



Keeping stalls, lots, and pastures clean of manure will significantly reduce the number of eggs and larvae in the environment, subsequently decreasing the rate of parasite transmission from horse to horse. Pick manure from pastures daily or as frequently as possible. If unable to remove manure from pastures, refrain from harrowing fields and keep manure piles intact. Harrowing pastures not only breaks up the manure piles but also spreads the eggs throughout the pasture, forcing horses to graze contaminated areas. Horses will naturally avoid eating near manure piles, so avoid overstocking and overgrazing pastures.

Manure disposal can be challenging for farms. If manure must be spread on fields make certain that it is fully composted as the heat produced by composting destroys the parasite eggs and larvae.

Isolate new horses from the herd until their parasite load is determined and they have been dewormed. Pasture horses of similar categories together, such as low shedders with low shedders, and young horses with other young stock. Keep horses off a pasture for a year to reduce parasite numbers. If that is not possible, rotate horses among your pastures. For instance, avoid pasturing young stock in the same pasture in consecutive years. Since parasites are host specific, consider rotating pastures with other livestock species to disrupt their life cycle.

### Why isn't a winter month recommended for deworming?

Horses should be dewormed when there is the greatest potential for parasite transmission. Parasite eggs will not develop or hatch if the temperature is less than 43°F. A single deworming after a killing frost treats for tapeworms and bots. Additional deworming, unless the horse is showing signs of disease from parasites, is considered unnecessary and may lead to further anthelmintic resistance.

### What should I do with my young horse?

Until horses can mount a good immune response to parasites at approximately 3 to 4 years of age, they are treated as medium to high shedders regardless of their FEC classification.



Deworm foals in their first year no more than 3 months apart, beginning with Strongid® or Anthelcide® at 3 months and ivermectin at 6 and 9 months of age. Use moxidectin or ivermectin plus praziquantel when foals reach a year of age to aid in the treatment for tapeworms.





**Current deworming recommendations center on targeting the horses shedding most of the eggs on the fields with the most effective dewormer available for the particular herd.**

Controlling internal parasites is an important component of your horse's preventive care. Horses with heavy parasite infestations may be lethargic, thin, poor keepers and/or have a rough hair coat. Internal parasites may rob the horse of valuable nutrients, forcing owners to increase the amount they feed in an attempt to keep their horse at an appropriate weight. More severe signs of parasites include intermittent or persistent diarrhea, colic, and even death. That being said, owners must be cautioned that not all horses with a large parasite load show visible signs of disease until a great deal of internal damage has already occurred.

Traditionally, internal parasites were controlled by deworming the horse every other month, rotating the various deworming (anthelmintic) products. Unfortunately, over the years parasites have developed resistance to our available dewormers (similar to bacteria's developing resistance to antibiotics). Treating internal parasites as we have in the past only serves to increase this resistance, eventually rendering our current deworming products ineffective. To compound matters, there are currently no new dewormers being formulated for the horse market. To slow the current rate of parasite dewormer resistance, horse owners need to change from past practices. Dewormers must be used minimally and discriminately in conjunction with the implementation of parasite management protocols for the farm and herd.

All horses have some level of parasite infection depending on their immune system and innate ability to combat parasite infestation. The goal for controlling parasites is not complete eradication. Instead, efforts should be centered on identifying and classifying which horses are able, through their immune system, to rid themselves of most of the parasites and which horses struggle with that challenge. Each horse should be dewormed according to his or her classification with a deworming product that is shown to be effective. Correctly dosing the dewormer is important also as under-dosing plays a role in the development of resistance.

**How is my horse's classification determined?**

A fecal egg count (FEC) determines the type and number of parasites hosted by the horse. Three to four fresh, unfrozen fecal balls are needed for the test. Depending on the number of parasite eggs seen in the FEC, (noted as eggs per gram) the horse will be classified as a low, medium, or high shedder. To avoid false negative results, initial FECs should not be done less than 9 weeks after deworming with Strongid® or Panacur®, 12 weeks after deworming with an ivermectin, or 16 weeks after deworming with moxidectin (Quest®).

**When should the Fecal Egg Count be done?**

Fecal egg counts should be done during the time of year when horses are most likely to be shedding parasite eggs, which in our area is mid-summer. Ideally, all horses age 3 years and older would be tested in the

middle of the summer provided they are at least 12 weeks from their spring ivermectin deworming. This mid-summer FEC will be used to determine which horses are high egg shedders and require an additional deworming. ~~At minimum, the FEC could be performed after temperatures reach 43°F and prior to the April or October deworming provided the previously mentioned guidelines are followed.~~

**Suggested Deworming Schedule for Horses Over 3 Years of Age**

Month	Low Shedder (<200 EPG)	Medium Shedder (200 - 500 EPG)	High Shedder (>500 EPG)
April	Ivermectin	Ivermectin	Ivermectin
	Fecal Egg Count at least 12 weeks after first (April) deworming to identify high shedders.		
July/August			Ivermectin
	Fecal Egg Count 2 weeks after deworming high shedders to determine efficacy of dewormer (FECRT).		
October/November <sup>1</sup>	Moxidectin* + Praziquantel (Quest Plus®) <sup>2</sup>	Moxidectin* + Praziquantel (Quest Plus®) <sup>2</sup>	Moxidectin* + Praziquantel (Quest Plus®) <sup>2</sup>
	*Or alternative dewormer for aged or compromised horses per veterinarian's recommendation.		

<sup>1</sup>After freeze. <sup>2</sup>Quest should not be administered to horses under 12 months of age or to older, thin, or compromised horses without consulting a veterinarian.\*

**How do I know the dewormer I used was effective?**

Fourteen days after deworming your horse, another fecal egg count is done. Known as the fecal egg count reduction test (FECRT), the number of parasite eggs in the initial FEC is compared with the number of parasite eggs in the follow-up FEC. Depending on the dewormer used, an efficacy rate of 90-98% would indicate no resistance at that time. Low efficacy rates indicate anthelmintic resistance by the parasites in the herd or that an adequate dose of dewormer was not administered. Depending upon the dynamics of the herd, additional fecal egg counts and fecal egg count reduction tests may be recommended.