

## Common Internal Parasites of Horses

- **Large strongyles** can affect all horses, causing severe diseases such as peritonitis and colic. However, they are no longer considered the threat they once were as they have not developed resistance to our dewormers and are readily controlled through annual deworming.
- **Small strongyles** affect all horses over six months of age. They are relatively mild pathogens, however heavy infestations of small strongyles can cause weight loss, lack of appetite, diarrhea, fever, lethargy, dull hair coat, poor performance. Strongyle eggs are shed in the feces and parasite burden can be evaluated by performing a fecal egg count. Small strongyles have become generally resistant to the benzimidazoles (Panacur and Anthelcide) and pyrimidine dewormers (Strongid) with early evidence of resistance to Ivermectin.
- **Roundworms (Ascarids)** primarily affect foals and young horses causing respiratory disease and intestinal impactions. These parasites are highly resistant to Ivermectin and moxidectin. With proper management, older horses will have developed immunity to roundworms and will not suffer from roundworm infection. Current recommendations to treat foals for roundworms by deworming at 2 to 3 months of age and again at 4 to 6 months of age with Panacur.
- **Tapeworms** affect all horses over six months of age and if left untreated can cause intestinal impaction and colic. Fortunately, tapeworms are not currently showing signs of anthelmintic resistance and annual deworming in autumn after a freeze with praziquantel or pyrimidines remains effective.
- **Pinworms** do not cause intestinal pathology but will cause extreme irritation at the tailhead and perianal region as eggs are deposited there. Pinworm infection is usually treated with Ivermectin or benzimidazole dewormers, however resistance is on the rise.
- **Bots** affect all horses, attaching to the lining of the stomach and intestinal walls. Bots can be controlled by annual deworming with ivermectin or moxidectin in late fall or early winter.

## Best Farm Management Practices

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.



1. **Pick the manure:** 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. If you are unable to clear manure from pastures, refrain from harrowing the pastures and keep manure piles intact to avoid spreading the eggs.
2. **Spread ONLY composted manure:** Manure disposal can be challenging for farms. If manure must be spread on fields, make certain it is fully composted which will destroy the parasite eggs and larvae.
3. **Wait to introduce new horses:** Isolate new horses from the herd until their parasite load is determined and they have been dewormed.
4. **Group horses and rotate pastures:** 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 or consider rotating pastures with other livestock species to disrupt their life cycle.



## Controlling Internal Parasites In Horses



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Due to the increase in parasite resistance to our current deworming agents, strategic, targeted deworming coupled with farm management has replaced the past practice of indiscriminate, rotational deworming. With no new dewormers in the pipeline, it is important to assess our parasite control goals and determine the best program for each horse and facility.

Your veterinarian is a valuable resource in assisting you in developing a parasite control plan. The goals of the plan will be to minimize the risk of parasitic disease, control parasitic egg shedding, and ultimately maintain the efficacy of our current dewormers while avoiding further development of anthelmintic resistance.

It's important to understand that all horses have some level of parasite infection depending on their immune system and innate ability to combat parasite infestation. Therefore, the goal is not complete eradication. Instead, efforts should be centered on identifying and classifying which horses are able to rid themselves of most of the parasites and which horses struggle with that challenge.

Parasite burden is determined by counting the strongyle and/or ascarid eggs shed in the feces, known as a fecal egg count (FEC). Each horse should be dewormed based upon their classification as a low, medium, or high shedder with the correct dose of an effective dewormer.

Fecal egg counts should be performed when horses are most likely to be shedding parasite eggs, which in our

Suggested Deworming Program for Horses Over 2 Years of Age			
Month	Low Shedder (<200 EPG)	Medium Shedder (200 – 500 EPG)	High Shedder (>500 EPG)
April	None/Ivermectin*	Ivermectin	Ivermectin
<i>July: FEC at least 12 weeks after initial spring deworming and prior to additional deworming to identify egg shedding status.</i>			
July/August			Ivermectin
<i>July, August, or September: FECRT ~2 weeks after deworming high shedders to determine efficacy of dewormer</i>			
October/November (After freeze, targets tapeworms & bots)	Moxidectin** +Praziquantel (Quest Plus®)	Moxidectin** +Praziquantel (Quest Plus®)	Moxidectin** +Praziquantel (Quest Plus®)
<p>*April low shedder deworming may be eliminated unless there are clinical signs of parasitism or herd dynamics support it.            **Quest should not be administered to horses under 12 months of age or to older, thin, or compromised horses without consulting a veterinarian. Use an alternative dewormer per your veterinarian's recommendation.</p>			

location is mid-summer. Three to four fresh, unfrozen fecal balls are needed. To keep eggs from hatching prior to testing, samples may be refrigerated. Also, to avoid false negative results, initial FECs should not be done less than 8 weeks after deworming with Strongid® or Panacur®, 12 weeks after deworming with ivermectin, or 14 weeks after deworming with moxidectin (Quest®.)

An additional fecal egg count, the fecal egg count reduction test (FECRT), should be done 10 - 14 days after deworming your horse to assess the efficacy of the dewormer. Low efficacy rates may indicate anthelmintic resistance or that an adequate dose of dewormer was not administered. Your veterinarian may suggest further parasite control recommendations depending upon the results of the FECRT.

Suggested Deworming Program for Young Horses (Up to 3 years of age)				
	2-3 months of age	4-6 months of age	9 months of age*	12 months of age
Foals	Panacur	Panacur	Ivermectin + Praziquantel (for tapeworms)	Ivermectin
<i>Foals should have a FEC at 9 months of age to identify if the parasite burden is primarily strongyles or ascarids and deworm accordingly.</i>				
<b>Yearlings and 2-Year Olds</b> should be treated as high shedders and dewormed three times per year. A FEC should be performed annually to evaluate the efficacy of the dewormer.				

*Your veterinarian knows your horse and your facility and is an excellent resource to determine the best parasite control program for your individual horse.*