



## De-worming with Fecal Egg Counts

### Collection Procedure:

Step 1: Collect fresh, warm feces (2-3 fecal balls) in a zip-lock bag.

Step 2: **Remove all air** from the zip-lock bag.

Step 3: Place bag in refrigerator until picked up by clinic, or place in a box, on ice and deliver to clinic.

### **Why should I start de-worming my horse using fecal egg counts?**

Fecal Egg Counts (FEC) give you, the owner and/or barn manager, the ability to better understand whether your horse is a high or low shedder of parasitic eggs, what parasites are present within your horse and what medication should be used to alleviate the infestation.

The typical protocol for de-worming horses has been to de-worm each horse on a bi-monthly basis (every other month). This system has worked in the past, but we as veterinarians are finding that parasites can develop resistance to certain types of de-worming medications due to the frequent treatment. Without the use of FECs, we are unable to know which horses have parasites that have developed resistance and exactly what parasite they are resistant to. Also, there are a number of medications available that are designed to treat only certain types of parasites. So, a horse may be de-wormed, but that specific de-worming medication may not be the one that he or she needs.

The goal of using FECs is to de-worm your horse twice per year, once in the spring and once in the fall, respectively.

### **What types of parasites are there?**

The most common types of parasites that we typically see in adult horses are as follows:

1. Strongyles (large and small)
2. Ascarids (roundworms)
3. Pinworms



## What medications are used to de-worm horses and what do they treat?

Below is a chart of common trade names, medications (anthelmintics) and which parasite they target\*:

Trade Name	Medication	Targeted Parasite
Panacur®	Fenbendazole	Strongyles, pinworms, ascarids
Zimecterin®	Ivermectin	All parasites except tapeworms
Zimecterin® Gold	Ivermectin, Praziquantel	All parasites including tapeworms
Quest®	Moxidectin	All parasites except tapeworms, partially effective against small strongyles
Quest® Plus	Moxidectin, Praziquantel	All parasites including tapeworms, partially effective against small strongyles
Strongid®	Pyrantel pamoate	Strongyles, pinworms, ascarids

\*The products mentioned are simply examples of the different kinds of medications available. There are many different brands available that contain the same medication, and the brand of choice is up to you, the owner or the barn manager. See a full list of dewormers on our Equine Deworming Chart.

## What happens after I submit my horse's fecal sample?

Once the fecal sample is received by our office, our staff will perform a FEC on the sample. The cost to you is \$20.00. This will determine whether or not your horse is a high or low shedder of parasitic eggs and what type of eggs are present. The results are expressed as eggs per gram (EPG) of manure. A FEC of 0-99 EPG is considered a light parasite load (low-shedder), 100-499 EPG is considered a medium parasite load and 500+ EPG is considered a high parasite load (high-shedder).

If your horse is determined to be a high shedder, we will recommend a de-wormer for your horse based off of the type of eggs that were found. Two weeks after administration, we will repeat the FEC in order to determine whether or not that specific de-wormer has been effective.

If the second FEC is improved, we recommend a retest in 6 months (either spring or fall), unless circumstances suggest otherwise.

If your horse is a low shedder, we will recommend a de-wormer to be administered at that time. Again, the goal is to de-worm twice per year (once in the spring, and once again in the fall). As long as circumstances remain the same and other health issues do not arise, your horse will be tested again in 6 months (either spring or fall).





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## Targeted/Strategic Deworming Schedule

### Low Shedders (less than 200 epg):

	March	May	September
<b>Option 1</b>	Ivermectin	None	Moxidectin and Praziquantel
<b>Option 2</b>	Moxidectin	None	Ivermectin and Praziquantel
<b>Option 3</b>	Ivermectin	Benzimidazole or Pyrimidine	Moxidectin and Praziquantel

### Moderate Shedders (225-500 epg):

	March	July	November
<b>Option 1</b>	Moxidectin	Benzimidazole or Pyrimidine	Ivermectin and Praziquantel
<b>Option 2</b>	Ivermectin	Benzimidazole or Pyrimidine	Moxidectin and Praziquantel
<b>Option 3</b>	Double Dose Fenbendazole (5 days)*	Ivermectin or Moxidectin	Ivermectin/Moxidectin and Praziquantel

### High Shedders (525 epg and higher):

	March	June	September	December
<b>Option 1</b>	Moxidectin or Double Dose Fenbendazole (5 days)*	Benzimidazole or Pyrimidine	Ivermectin/Moxidectin and Praziquantel	Benzimidazole or Pyrimidine





## Pregnant Mares:

Deworm as usual, but when you administer vaccinations 4-6 weeks prior to foaling, deworm with ivermectin with praziquantel (Equimax®, Zimectrin Gold®) or moxidectin with praziquantel (Quest Plus®).

## Foal Schedule:

Age	Medication	Brand Name
2 months	Ivermectin	Equell, Zimectrin
4 months	Oxibendazole	Anthelcide EQ
*5 months	Pyrantel Pamoate	Strongid
6 months	Moxidectin with Praziquantel	Quest Plus
8 months	Pyrantel Pamoate	Strongid
*9 months	Fenbendazole	Panacur, SafeGuard
10 months	Ivermectin	Equell, Zimectrin
12 months	Fenbendazole	Panacur, SafeGuard

\*Optional, however, indicates optimal treatment





## Types of Dewormers

We are all quite familiar with the task of deworming our horses followed by the sometimes overwhelming decision that needs to be made with regard to what type of dewormer to use. So far, you've learned the different types of deworming programs (continuous, interval and strategic) and now you'll learn the active drug and chemical class that each dewormer is classified in.

Dewormers, also known as anthelmintics, are categorized in four chemical classes, macrocyclic lactones, combined macrocyclic lactones, benzimidazoles, and pyrimides. The chart below should help you understand the active drug(s) and a few trade names/brands that are available within each chemical class. (For a full list of brand names, please see our chart titled "Equine Dewormers")

<b>Chemical Class</b>	<b>Active Drug</b>	<b>Trade Name/Brand</b>
Macrocyclic Lactones: (Avermectin/Milbimycin)	Ivermectin, Moxidectin	ZIMECTERIN, QUEST Gel
Combined Macrocyclic Lactones: (Avermectin/Isoquinoline)	Ivermectin/Moxidectin + Praziquantel	EQUiMAX, QUEST Plus Gel, ZIMECTERIN GOLD
Benzimidazoles	Fenbendazole, Oxibendazole	panacure, safe-guard, Anthelcide EQ
Pyrimides	Pyrantel Tartrate, Pyrantel Pamoate	Pyrantel Paste, Strongid Paste

There are many advantages in being familiar with the types of medications and what parasite(s) each medication targets when it comes to strategic deworming. Just like training, some horses are easier to manage than others when it comes to deworming, but you're not alone. Working closely with your veterinarian is key to being successful with strategic deworming on your farm. If you have questions specific to your farm/herd, please don't hesitate to call or send us an email!

