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Your Partner in Horse Care™

Deworming Handbook

A Horse Owner's Practical Guide to Parasite Control

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Deworming Handbook

A Horse Owner's Practical Guide to Parasite Control



Your Partner in Horse Care™



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Knowledge Is Power

Knowledge is power. That's the thought behind this booklet, prepared by Farnam in collaboration with parasite control experts. The more you know about equine parasites, the better you'll be able to have a discussion with your veterinarian about the steps to take to protect your horse.

It's important to realize that a "one-size-fits-all" approach to deworming doesn't exist. Horse owners have used different approaches through the years, including rotating products, daily deworming with a larvicidal product and, more recently, fecal testing to determine if deworming is necessary and which product to use. Equine experts' current recommendation is to create a selective deworming program targeted to each individual horse.

We hope you find our Deworming Handbook useful. Another helpful resource is the Internal Parasite Control Guidelines from the American Association of Equine Practitioners, which can be found at www.aaep.org

Equine experts' current recommendation is to create a selective deworming program targeted to each individual horse.

First Things First

From the hardworking grade gelding at the riding stable to the elite Grand Prix show jumper, all horses have internal parasites. They've always had them and they always will. Parasites are among the many organisms normally found in the intestines of grazing animals. That's just a fact of life.

Many types of parasites are ingested when horses eat grass that harbor infective larvae. In the wild, horses and burros won't eat near their own manure, but our domesticated horses don't always have a choice as to where or what they eat. We put them

plan and other health measures. Every one of these elements helps ensure your horse will live a long, happy, healthy life.

Deworming is an essential part of equine health care. The goal is parasite control, not the complete elimination of every single parasite. Each horse is an individual, so even horses living in the same barn on the same farm won't have the same parasite load or require the same number of deworming treatments with the same deworming drugs.

You've probably heard that there are several recommendations for

Horses are exposed to infective worm larvae when grazing, so if your horse is on pasture, he has likely ingested parasite larvae.

in stalls and fenced areas, making them wholly dependent upon us to meet their nutritional needs, but also keeping them in areas where they are often exposed to parasites.

Horses are exposed to infective worm larvae when grazing, so if your horse is on pasture, he has likely ingested parasite larvae. Conditions in stalls and dry lots are less favorable for parasite survival, so horses kept in those environments have less exposure.

As a conscientious horse owner, your goal is to provide proper care, from safe housing and balanced nutrition to addressing your horse's overall health, which includes hoof care, dental care, a vaccination program, a deworming

deworming, but how do you come up with the best plan for your particular horse?

Before we tackle that question, let's start with a little background on deworming.

Even the ancient Greeks and Romans were aware that internal parasites caused damage in horses. Up until the middle of the last century, many fatal cases of colic were attributed to gastrointestinal parasites. Researchers in the 1960s discovered anthelmintic (deworming) drugs that were highly effective in treating these parasites, and the first modern dewormers were introduced. Before then, horse owners often used home remedies, including

chewing tobacco and herbs such as garlic.

The widespread use of deworming drugs over the last few decades has been effective in that larger strongyles, once a common equine intestinal parasite, have become more rare. That's the good news.

The not-so-good news is that some commonly occurring parasite populations have developed resistance to deworming drugs. Resistance can develop when the same product is used repeatedly. Once the resistant worms make up a significant part of the parasite population, drugs aren't effective in treating them. That's a serious issue because resources are limited when it comes to the drugs used for deworming.

CHEMICAL CLASSES

There are currently only three basic chemical classes of deworming products:

1) Avermectins/Milbemycins

(ivermectin and moxidectin), also referred to as macrocyclic lactones;

2) Pyrimidines

(pyrantel pamoate and pyrantel tartrate), also referred to as pyrantel salts;

3) Benzimidazoles

(fenbendazole and oxbendazole)





Resistance

You've likely heard about antibiotic resistance and concerns that overuse of these drugs can prompt selection of bacteria that are more resistant and harder to destroy. The same premise holds true with deworming drugs.

With a limited arsenal of drugs to fight parasites, resistance is a huge concern. As a horse owner, you should maintain the health of your horse and use deworming products according to label directions so they

are long and hot, those conditions can greatly limit parasite transmission. The same is true for long, harsh winters.

Horses at different ages also face different risks. Foals and young horses, for example, may require deworming more frequently than older horses simply because they're at higher risk of parasite infection.

At this point you're probably wondering what your horse really needs to protect him from parasites. Fortunately, you have a knowledgeable partner

The widespread use of deworming drugs over the last few decades has been effective in that large strongyles, once a common equine intestinal parasite, have become more rare.

remain effective in treating parasites for as long as possible. Experts believe resistance is a major reason it is important to have a deworming program that treats individual horses "selectively" as needed, rather than using the same plan for every horse, or just deworming every two months and rotating products, which was commonly done in decades past. Fecal testing can also tell you which products are actually working.

An effective deworming protocol should be based on the season, climate, your particular horse (including his age) and his exposure to parasites.

You might not have realized it, but if you live in a region where summers

in this mission, and that person is your veterinarian.

Once upon a time, veterinarians actually came to the farm and administered deworming drugs via a nasogastric tube. Then paste and daily dewormers came on the market and the whole deworming process was suddenly accessible to any horse owner who purchased the products.

Oral paste or gel dewormers may also be referred to as "purge" dewormers because they are used as a single dose, or purge, to kill parasites within the horse. Daily dewormers are designed to be given every day to prevent regular exposure to new parasites in horses.

While you can't go to your local feed store and buy antibiotics for your horse, you'll find shelves filled with dewormer products. It's worth remembering that even though you can purchase them over the counter, these products are still drugs and must be stored properly and used with care.

This is where your veterinarian comes in. He or she is a knowledgeable consultant with whom you can discuss all deworming questions and concerns.

They know the climate in your area, your individual horse and

Fecal testing is a broad term for Fecal Egg Count (FEC) and Fecal Egg Count Reduction Test (FECRT).

Here's how it works when checking to see if the deworming drug you used is effective. First, collect a fecal sample. Simply turn a sandwich-size sealable plastic bag inside out, put your hand inside and pick up a few "apples" of as-fresh-as-possible manure. Turn the bag right side out while holding onto the manure and seal it. Keep the sample refrigerated or on ice until your veterinarian picks it up for testing.

Your veterinarian or a local lab then tests the sample for an FEC at the time

Daily dewormers are designed to be given every day to prevent regular exposure to new parasites in horses.

his exposure and risk level as well as the management practices at your farm (or the stable where your horse is boarded). Each of these factors is essential in creating an effective deworming plan that ensures adequate control without overtreatment.

Fecal Testing 101

Fecal testing is an inexpensive way to determine if your deworming plan is working; it can also tell you if your horse carries a heavy or light parasite egg count, which is valuable information, as this tells you how frequently—or infrequently—he needs treatment.

of deworming. (Note: For definitive results, it's important that all horses on the same premises be tested at the same time.) Ten to 14 days after deworming, collect another sample for an FECRT. In this test, the number of eggs per gram (EPG) of feces after deworming is compared with the EPG prior to treatment.

In essence, this is a simple way to test the effectiveness of the dewormer you've been using. If the drug is effective, there will be a 90% or greater reduction in EPG. This means that your horse's dewormer drug is working and you can continue using it as needed.





If there is less than a 90% reduction in EPG, the effectiveness of the drug is questionable. Less than 80% reduction is a clear indication of parasite resistance to that specific drug class and the drug is no longer considered effective against that target parasite.

Low and High Shedders

Well-cared-for adult horses can handle a worm burden better than young or aged horses. Fecal testing shows that

more contamination on the pasture because of the parasite eggs shed in their manure. High egg shedders may need deworming treatments more often per year than low egg shedders.

The species of worm detected in both high and low shedders can affect the interpretation of the FEC.

This is when your veterinarian discusses the FECRT results with you and recommends a deworming

High egg shedders may need deworming treatments more often per year than low egg shedders.

approximately one-half to two-thirds of mature adult horses will consistently maintain zero or very low egg counts long after the benefits of a recent deworming have expired. These horses are referred to as “low egg shedders” or “low contaminators” (less than 200 eggs per gram of feces). Low egg shedders usually only need deworming once or twice per year.

Low shedders do however excrete eggs into the grazing environment, and these eggs can infect other horses and perpetuate infections in the low shedders themselves. Shedding status is less of a concern when horses live in an environment without grass to graze, such as a dry lot.

A smaller percentage of horses are more susceptible to parasites. They’re known as “high shedders” (more than 500 eggs per gram) and they cause

schedule that will be most effective for your particular horse.

Keep in mind that a successful parasite control plan also involves smart management practices. This includes not overgrazing or overstocking pastures and, of course, good manure management. In a perfect world, you’d remove the manure from your horse’s pasture immediately. At the very least, don’t drag manure over areas where horses graze, and when you clean stalls, don’t dump manure and waste bedding in fields you use for grazing.



Be Informed

Different classes of deworming drugs target different parasites, so you need to know what parasites you're trying to control.

For example, young horses are much more susceptible to ascarids than mature horses, so when deworming your foal or yearling, be sure the product you're using is labeled for ascarids in its list of controlled parasites. In addition, only certain drugs kill bots, so look for "boticide" on the label if it's a target parasite. The tapeworm is another species that isn't targeted by every dewormer; read the label closely to find out which parasites the drug targets.

Remember, the goal of a responsible deworming program is to reduce parasite transmission, kill important parasites at the right time of year and minimize the development of resistance to dewormer drugs.

Make sure the product label includes your targeted parasite on its list of controlled parasites.

Dosage and Administration

Even when using the right dewormer per your veterinarian's recommendations, it's important to follow label directions closely. Depending on the product, one syringe of product may treat horses from 1,150–1,500 pounds.

It's important to follow label instructions closely.

- Administer the correct amount according to your horse's weight. Use a weight tape beforehand to approximate his weight and set the syringe so the dosage matches the weight. If possible, weigh your horse on a scale to get his actual weight.
- Make sure the horse's mouth is empty of any feed, grass or hay because he can easily spit out the dewormer if there is any food material in his mouth. Put the syringe into the horse's mouth at the space between his teeth, depress the plunger as far as it will go and deposit the paste on the back of the tongue. Immediately following administration, hold his head up for a few seconds until he swallows it.

TIP

Watch helpful videos on deworming and other horse care topics at farnam.com





Most Common Equine Parasites

All horses have parasites to some degree. The age of your horse and the climate and environment where he lives have a great deal to do with his level of risk and exposure.

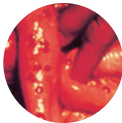
While you won't win a gold star for knowing all the different types of parasites that can infect your horse, some basic knowledge will separate fact from fiction and more importantly will help you use deworming products wisely. These insights will also be helpful when you discuss deworming with your veterinarian to ensure your parasite control program is tailored to your individual horse's needs.

Read on to learn more about the most common equine parasites, how they infect horses and which horses are at risk. You'll also learn which deworming drugs are effective against each parasite.

Basic knowledge will help you use deworming products wisely.

Large Strongyles

Strongylus vulgaris, *S. equinus*, *S. edentatus*



Lifecycle

Large strongyle eggs are shed by the horse in feces and can develop into infective larvae on pasture in as little as three days. Once swallowed, the larvae drop their protective coating, or “sheath,” and migrate to different organs for further development. *Strongylus vulgaris* larvae move through the horse’s body to the arteries, including the mesenteric artery, which is the main artery that feeds the digestive system. *S. vulgaris* larvae continue to grow and cause damage in the mesenteric artery for about 4 months, then return to the large intestine, where they feed on the intestinal wall. After 6 to 7 months, the worms mature and eggs are passed in the manure.

S. equinus larvae move to the liver for about 6 weeks. Then they migrate through the pancreas and the abdominal cavity to the large intestine. After 9 months, adults mature and lay eggs.

S. edentatus larvae also move to the liver, where they remain for about 9 weeks. Then they move to the abdominal walls, where they reside for several months before they migrate back to the intestines and form nodules in the lining of the gut.

Large Strongyles: Species & Stages

Strongylus vulgaris, *S. equinus*, *S. edentatus*

ACTIVE INGREDIENT	S. VULGARIS-ADULTS	S. VULGARIS-L4 ARTERIAL	S. VULGARIS-L5 ARTERIAL	S. EDENTATUS-ADULTS	S. EDENTATUS-TISSUE	S. EQUINUS-ADULTS
Ivermectin	●	●	●	●	●	●
Moxidectin	●	●	●	●	●	
Fenbendazole	●			●		●
Oxibendazole	●			●		●
Pyrantel Pamoate	●			●		●
Pyrantel Tartrate-Daily	●			●		

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.



How Large Strongyles Get Into Your Horse

Large strongyle larvae are swallowed by your horse when he eats infected grass.

Dangers If Left Untreated

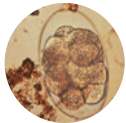
S. vulgaris larvae cause severe damage. Migrating larvae rough up artery walls, leaving tracks where blood clots can form. Clots break away from the wall and lodge into other blood vessels, blocking blood flow to the intestine. This can lead to tissue death in the intestine, which in turn causes inflammation in the abdominal cavity.

Are Horses of All Ages at Risk for This Parasite?

Horses acquire some immunity to these parasites over time, so older horses that have been exposed typically have much smaller worm burdens, if any.

Small Strongyles

Cyathostomes



Lifecycle

After a horse swallows small strongyle larvae, the larvae burrow into the intestinal wall, then mature and emerge in the large intestine, where they feed and lay eggs. Eggs are passed in manure and develop into infective larvae in the grass.

How Small Strongyles Get Into Your Horse

Small strongyle larvae are swallowed by your horse when he eats infected grass.

Dangers If Left Untreated

Horses severely infected with small strongyles can suffer weight loss and diarrhea.

Small Strongyles: Species & Stages

Cyathostomes

ACTIVE INGREDIENT	ADULTS	ENCYSTED L3/L4 LARVAE	LARVAL STAGES GENERAL
Ivermectin	●		●
Moxidectin	●	●	●
Fenbendazole	●	1	
Oxibendazole	●		
Pyrantel Pamoate	●		
Pyrantel Tartrate-Daily	●		●

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

1 See product labels for specific information on what small strongyle species and stages each compound controls.

● Control: See Deworming Guide on page 32 for product brand names.



Are Horses of All Ages at Risk for This Parasite?

Horses of all ages have this parasite. Younger horses have less immunity and are more likely to have greater numbers of parasites.

Bot Flies

G. intestinalis, G. nasalis



Lifecycle

Bot eggs enter the horse's mouth and develop into larvae. The larvae migrate through the horse and attach themselves to the horse's stomach, remaining there over the winter. After about 10 months, they detach themselves and are passed in the feces. The larvae burrow into the ground and mature into adult flies. Adult female flies deposit eggs on the horse's legs, shoulders, chin, throat and lips.

How Bots Get Into Your Horse

The horse licks the characteristic yellow eggs laid by *G. intestinalis* on its forelegs and shoulders. The eggs hatch and enter the horse's mouth. *G. nasalis* lays eggs around the horse's chin and throat. These eggs hatch and the larvae burrow under the skin to the mouth, wandering through the mouth before migrating to the stomach.

Dangers If Left Untreated

Bots can cause inflammation of the mouth and stomach irritation.

Are Horses of All Ages at Risk for This Parasite?

Yes.

Bot Flies: Species & Stages

G. intestinalis, G. nasalis

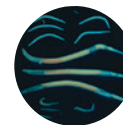
ACTIVE INGREDIENT	G. INTESTINALIS-1ST INSTAR	G. INTESTINALIS-2ND INSTAR	G. INTESTINALIS-3RD INSTAR	G. NASALIS-1ST INSTAR	G. NASALIS-2ND INSTAR	G. NASALIS-3RD INSTAR
Ivermectin	●	●	●	●	●	●
Moxidectin		●	●			●
Fenbendazole						
Oxibendazole						
Pyrantel Pamoate						
Pyrantel Tartrate-Daily						

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.

Pinworms

Oxyuris equi



Lifecycle

Pinworm larvae mature in the large intestine, feeding off the intestinal lining. Adult females move to the anal area where they lay eggs covered with a sticky fluid that causes severe itching.

How Pinworms Get Into Your Horse

Horses become infected with pinworms when they ingest eggs on pasture, in water or in feed. They can also pick up pinworms from another horse by mutual grooming, or from contaminated brushes or objects (such as a fence post) an infected horse has rubbed against.

Dangers If Left Untreated

The severe itching makes the horse rub his tail and rump so much, the tail hairs break off. Rubbing, biting and scratching can open the skin to infections.

Are Horses of All Ages at Risk for This Parasite?

Yes.

Pinworms: Species & Stages

Oxyuris equi

ACTIVE INGREDIENT	OXYURIS EQUI-ADULTS	OXYURIS EQUI-LARVAE
Ivermectin	●	●
Moxidectin	●	●
Fenbendazole	●	
Oxibendazole	●	●
Pyrantel Pamoate	●	
Pyrantel Tartrate-Daily	●	●

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.

Tapeworms

Anoplocephala perfoliata



Lifecycle

Tapeworm eggs develop in the oribatid grass mite over 2 to 4 months. When infected mites are swallowed, tapeworms mature inside the horse in 4 to 6 weeks.

How Tapeworms Get Into Your Horse

The horse ingests infected mites when grazing.

Dangers If Left Untreated

Severe tapeworm infection can cause intestinal irritation. Fatal intestinal blockage can occur as worms accumulate in the ileocecal junction—the three-way junction between the small intestine, large intestine and cecum.

Are Horses of All Ages at Risk for This Parasite?

Yes.

Tapeworm Species

Anoplocephala perfoliata

ACTIVE INGREDIENT	ANOPLOCEPHALA PERFOLIATA	ANOPLOCEPHALA MAGNA	ANOPLOCEPHALA MAMILLANA
Ivermectin			
Moxidectin			
Praziquantel	●	●	●
Fenbendazole			
Oxibendazole			
Pyrantel Pamoate	①		
Pyrantel Tartrate-Daily			

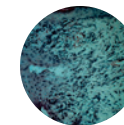
Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

① Elevated dose required.

● Control: See Deworming Guide on page 32 for product brand names.

Neck Threadworms

Onchocerca cervicalis



Lifecycle

Neck threadworms have an indirect lifecycle. Neck threadworm microfilariae live under the horse's skin and are picked up by the biting midge when it feeds on the horse. Microfilariae develop into infective larvae in the midge's mouth and are passed when the midge bites a horse.

How Threadworms Get Into Your Horse

The horse is bitten by an infected midge. Larvae are deposited into the bite wound, where they migrate to ligaments in the neck, flexor tendons and suspensory ligaments.

Dangers If Left Untreated

Microfilariae under the skin may cause irritation.

Are Horses of All Ages at Risk for This Parasite?

Yes.

Neck Threadworms

Onchocerca cervicalis

ACTIVE INGREDIENT	ONCHOCERCA CERVICALIS
Ivermectin	●
Moxidectin	
Fenbendazole	
Oxibendazole	
Pyrantel Pamoate	
Pyrantel Tartrate-Daily	

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.

Lungworms

Dictyocaulus arnfieldi



Lifecycle

Lungworm larvae go through intestinal walls into the circulatory system where they're carried to the lungs and mature. Eggs are passed through the horse's system in manure.

How Lungworms Get Into Your Horse

Lungworm larvae are swallowed by your horse when he eats infected grass.

Dangers If Left Untreated

Lungworm larvae irritate small air sacs in the lungs (bronchioles), which can cause severe coughing, difficulty breathing and loss of appetite. Older horses usually develop a resistance to lungworms, but foals can die from an infection because they have less immunity to the parasites.

Are Horses of All Ages at Risk for This Parasite?

No. Donkeys are known to carry this parasite with few symptoms, so horses that live near donkeys may have increased risk.

Lungworms: Species & Stages

Dictyocaulus arnfieldi

ACTIVE INGREDIENT	DICTYOCAULUS ARNFIELDI-ADULTS	DICTYOCAULUS ARNFIELDI-L4 LARVAE
Ivermectin	●	●
Moxidectin		
Fenbendazole		
Oxibendazole		
Pyrantel Pamoate		
Pyrantel Tartrate-Daily		

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.

Stomach Worms

Draschia megastoma, Habronema muscae



Lifecycle

Stomach worm larvae are ingested by fly maggots in manure. The worms develop inside the maggots and are then present in the emerged fly. Mature flies then deposit the larvae on the lips, nostrils, wounds and other naturally moist areas of the horse.

How Stomach Worms Get Into Your Horse

Stomach worm larvae are swallowed as the horse licks an infested area, or they stay in a wound and create oozing, expanding sores. Flies must be active for infection to occur.

Dangers If Left Untreated

Stomach worm larvae can expand a skin wound and prevent healing, causing "summer sores." Larvae deposited in the eyes can cause conjunctivitis. Larvae that are eaten can cause gastritis.

Are Horses of All Ages at Risk for This Parasite?

Yes.

Stomach Worms: Species & Stages

Draschia megastoma, Habronema muscae

ACTIVE INGREDIENT	HABRONEMA MUSCAE	HABRONEMA-L3 LARVAE	DRASCHIA-L3 LARVAE
Ivermectin	●	●	●
Moxidectin	●		
Fenbendazole			
Oxibendazole			
Pyrantel Pamoate			
Pyrantel Tartrate-Daily			

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

● Control: See Deworming Guide on page 32 for product brand names.

Intestinal Threadworms

Strongyloides westeri



Lifecycle

Infection occurs by eating larvae or through the skin. Larvae that enter through the skin migrate to the lungs and up the windpipe, where they're coughed up and swallowed. Larvae mature into adults in the small intestine. Adults lay eggs that are passed in manure.

How Intestinal Threadworms Get Into Your Horse

Infected mares pass the worm in their milk into their foals. Larvae are also swallowed by the horse when he eats infected grass or they enter through the horse's skin.

Dangers If Left Untreated

Untreated foals can suffer diarrhea, weakness, weight loss and poor growth.

Are Horses of All Ages at Risk for This Parasite?

No, this parasite infects foals and yearlings.

Intestinal Threadworms

Strongyloides westeri

ACTIVE INGREDIENT	STRONGYLOIDES WESTERI-ADULTS
Ivermectin	●
Moxidectin	
Fenbendazole	
Oxibendazole	①
Pyrantel Pamoate	
Pyrantel Tartrate-Daily	

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

① See product label for special dosing requirements.

● Control: See Deworming Guide on page 32 for product brand names.

Large Roundworms

(Ascarids) *Parascaris spp.*



Lifecycle

Ascarid eggs mature in the environment and are infective once they contain a third-stage larva. Foals get infected by ingesting these eggs from the environment. Once swallowed, the eggs drop their protective coating in the stomach and hatch. The larvae migrate to the liver and then the lungs before they're coughed up and swallowed again. Then they travel to the small intestine where they remain for the rest of their lives. Worms become mature and pass eggs in manure about 3 months after the foal has ingested the infected egg.

How Large Roundworms Get Into Your Horse

Eggs are ingested from the environment, typically when the horse grazes infected grass.

Dangers If Left Untreated

Infection can cause airway inflammation and intestinal impaction.

Are Horses of All Ages at Risk for This Parasite?

No, this parasite primarily infects foals, weanlings and yearlings. Almost all foals are infected by this parasite.

Large Roundworms: Species & Stages

(Ascarids) *Parascaris spp.*

ACTIVE INGREDIENT	PARASCARIS EQUORUM-ADULTS	PARASCARIS EQUORUM-L3 LARVAE	PARASCARIS EQUORUM-L4 LARVAE
Ivermectin	●	●	●
Moxidectin	●		●
Fenbendazole	①		
Oxibendazole	●		
Pyrantel Pamoate	●		
Pyrantel Tartrate-Daily	●		●

Based on registered label claims and FOI summaries for each product on file with the FDA; single-dose application.

① Requires more than single syringe for 1,000 lb. horse.

● Control: See Deworming Guide on page 32 for product brand names.

Deworming Guide

Comparison based on product packaging claims.¹

PURGE DEWORMERS							CONTROLS											
3-WAY ROTATION	2-WAY ROTATION	CHEMICAL CLASS	ACTIVE INGREDIENT	BRAND NAME	APPLICATION METHOD	FORM	MAX. WEIGHT TREATED	Number of Species and Stages	Larval Stages	Large & Small Strongyles	Pinworms	Roundworms	Stomach Worms	Hairworms	Bots	Intestinal Threadworms	Lungworms	Tapeworms
		MACROCYCLIC LACTONE	Ivermectin	Horse Health™	Syringe-dosed	Paste	1250	31+	●	●	●	●	●	●	●	●	●	
				IverCare®	Syringe-dosed	Paste	1500	31+	●	●	●	●	●	●	●	●	●	
				Zimecterin®	Syringe-dosed	Paste	1250	31+	●	●	●	●	●	●	●	●	●	
			Ivermectin/Praziquantel	Equimax®	Syringe-dosed	Paste	1320	31+	●	●	●	●	●	●	●	●	●	●
				Zimecterin Gold®	Syringe-dosed	Paste	1250	31+	●	●	●	●	●	●	●	●	●	●
			Moxidectin	Quest®	Syringe-dosed	Gel	1150	31+	●	●	●	●	●	●	●			
			Moxidectin/Praziquantel	Quest® Plus	Syringe-dosed	Gel	1250	31+	●	●	●	●	●	●	●			●
		PYRIMIDINE	Pyrantel Pamoate	Exodus®	Syringe-dosed	Paste	1200	6+		●	●	●						
				Strongid®	Syringe-dosed	Paste	1200	6+		●	●	●						
		BENZIMIDAZOLE	Fenbendazole	Panacur®	Syringe-dosed	Paste	550–1100 ²	6+		●	●	●						
				Safe-Guard® Equi-Bits®	On-feed	Pellet	625–1250 ²	6+		●	●	●						
				Safe-Guard® Paste	Syringe-dosed	Paste	550–1100 ²	6+		●	●	●						
			Oxibendazole	Anthelcide® EQ	Syringe-dosed	Paste	1200 ³	6+	●	●	●	●				●		

¹Based on products purchased 6/2018.

²Maximum weight treated varies within this range based on the type of parasite controlled.

³10 mg size only.

DAILY DEWORMERS							CONTROLS											
When using daily dewormers, experts recommend purge deworming in the fall and spring with a macrocyclic lactone, such as ivermectin, for bot control.							Number of Species and Stages	Number of ounces needed for a 1000 lb. horse	Larval Stages	Large & Small Strongyles	Pinworms	Roundworms	Stomach Worms	Hairworms	Bots	Intestinal Threadworms	Lungworms	Tapeworms
PYRIMIDINE	Pyrantel Tartrate	PyrantelCare™	On-feed	Pellet			31+	2	●	●	●	●						
		Strongid® C 2X™	On-feed	Pellet			31+	2	●	●	●	●						

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