Parasite Control

by Madalyn Ward, DVM

Strongyles (Blood Worms)

For many years it was thought that the large strongyles were the only real threat to horses' health. The large strongyles caused considerable damage to the blood vessels supplying the intestine during the migration stage. The damage caused by migrating large strongyles caused many horses to become chronic poor doers or colickers.

With the introduction of avermectin-type dewormers that killed migrating strongyles, the danger of permanent damage to blood vessels was greatly decreased. However, horses continued to colic and do poorly and we began to realize that the small strongyle species was equally damaging although in a different way. The small strongyles penetrate the wall of the intestine and become encysted there until conditions become favorable for them to emerge. These encysted larvae are resistant to dewormers, even the avermectins that kill migrating large strongyles.

Large and small strongyles are resistant to many dewormers on the market today. My drug of choice is Strongid pasteT (pyrantel). This is a very safe product that has been on the market for years and has a proven track record. In healthy horses it stays in the digestive tract where it kills the adult worms. It is not absorbed systemically. IvermectinT, ZimectinT, or QuestT (avermectins), on the other hand, are absorbed, which allows them to kill migrating parasites but also increases their toxicity. StrongidCT (pyrantel tartrate) is designed to be fed on a daily basis to kill worm larbae as they are ingested and to kill small strongyles as they emerge from the gut wall. Most small strongyles are resistant to benzimidole dewormers such as PanacurT.

Ascarids (Roundworms)

These worms are rarely a problem in horses over 2 years old. They can, however, be deadly for youngsters. After the ascarid eggs are ingested, they migrate through the liver and lungs. Many of the "colds" and coughs of babies are actually related to the inflammation in the lungs from roundworm migration. The adult worms can become quite long, and in large numbers cause blockage of the intestine. Roundworms in the intestine are killed by pyrantel, avermectin, and benzimidole dewormers. Avermectins are reported

to be effective against adult and migrating ascarids, but based on my experience, I prefer pyrantel or benzimidoles.

Tapeworms

It has been thought that tapeworms do not cause much damage to horses, but recently they are being looked at more closely. Tapeworms attach to the intestine at the junction between the small intestine and cecum. This is already a potential area of impaction in the horse, and it is believed by some that tapeworm infestation compounds the problem. Unfortunately tapeworm eggs do not show up on routine fecal exams, so if regular deworming is not resulting in thriftiness, consider giving pyrantel at 2-3 times the normal dose; this should kill any tapeworms.

Oxyuris (Pinworms)

These worms do not cause serious disease but can be irritating to horses. Stabled horses are most at risk. The female worm lays eggs around the perianal area, causing the horse to show symptoms of tail rubbing and hair loss. The best treatment is to wash the area with a mild soap and apply a soothing ointment.

Strongyloides

These worms cause mild diarrhea in young horses. Foals become infected via the mare's milk. Benzimidazole dewormers are safe and effective to use to treat foals. Control involves removing moist damp bedding where the worms breed.

Bots

These are not worms at all, but fly larvae. The female botfly, which looks like a bee, lays eggs around the face or legs of the horse and the eggs hatch when exposed to moisture. The larvae migrate to the stomach and attach there to develop. The larvae cause little damage, but the flies are extremely irritating to horses. Avermectin-type dewormers are excellent for controlling bots and treatment is only needed if the small yellow eggs are seen on the legs. Wetting the eggs with warm soapy water or scraping them off the hair is an easy, non-chemical approach to bot control.

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HORSE WORMERS:

A Look At The Different Horse Wormers
From Alpha Horse

Horse wormers come in a wide assortment of types and brand names, so much so that it's often tempting to just grab the nearest tube or box of wormer and just call it a day. After all, a wormer is a wormer – brand names are just the same products offered by different companies, right? As convenient as it would be were that question true, the answer is no.

Horse worming products are different families under the same roof.

Many of us will initially compare two types of wormers to be no different than unleaded gasoline versus super unleaded gasoline; one might be of a slightly higher quality, but they serve the same purpose and the benefits of the higher priced version are arguable. In reality a better analogy would be the difference between gasoline and oil; both are very similar and are necessary to make your car run well, but they are not interchangeable as they serve two distinctly different purposes.

Continuing with the car analogy for just a little longer, horse wormers share a common purpose in ensuring your horse "runs" well by removing parasites from his body, but since each targets a separate set of parasites each should be considered a unique and necessary product. With this in mind, it should now be clear why a proper parasite prevention program rotates horse wormers regularly.

Unfortunately learning about parasites is about as enjoyable for most of us as visiting the dentist! Thankfully this article will give you the "Cliff Notes" version of parasite prevention by explaining exactly which parasites each horse wormer targets, saving you time and allowing you to move on to more enjoyable topics!

A quick sidebar before we continue: I do realize in a technical sense the term "worming" is erroneous, and that we in fact use horse de-wormers in a horse de-worming program. But most horsemen leave out the "de" when referring to

wormers, so this article does the same in order to provide a quick and easy read.

Fenbendazole-Based Wormers
Effective Against:

Redworms
Pinworms
Roundworms
Stomach hair worms
Large-mouthed stomach worms

Fenbendazole is an extremely safe wormer, able to withstand overdoses of 100-200 times the standard dose without causing harm to your horse. For this reason Fenbendazole is often used to clear immature parasites (which are particularly resistant to wormers due to their slower metabolism) from a horse by applying a dose twice a day for five days.

The most popular Fenbendazole-based wormer on the market is Safe-Guard.

Oxibendazole-Based Wormers
Effective Against:

Large roundworms
Large strongyles
Pinworms
Threadworms

Whereas Oxibendazole may not target as many parasites as others, its success rate against the above listed parasites is very impressive: 97 – 100% effective! In addition Oxibendazole is a safe wormer, able to withstand overdoses up to 60 times the standard dose without causing harm to your horse.

The most popular Oxibendazole-based wormer on the market is Anthelcide EQ.

Ivermectin-Based Wormers
Effective Against:

Redworms

Pinworms
Roundworms
Lungworms
Stomach hair worms
Large-mouthed stomach worms
Neck and intestinal threadworms
Tapeworms
Bots

As you can see, Ivermectin is one of the most effective and well-rounded wormers available, though as with all wormers it does have its weaknesses since it is ineffective against small encysted strongyle and tapeworms. A very safe wormer, Ivermectin can be given in doses up to 60 times the standard dose without causing harm to your horse.

The most popular Ivermectin-based wormers are Zimecterin and Equimectrin.

Praziquantel
Effective Against:

Roundworms
Tapeworms

Praziquantel is not effective against many types of parasites, but it has been shown to target the abovementioned parasites very effectively when paired together with Ivermectin. As such, Praziquantel-Ivermectin blends are available in the forms of Zimecterin Gold and Equimax. These blends should be included in any rotation schedule as they are extremely effective.

Pyrantel Pamoate-based Wormers
Effective Against:

Redworms
Pinworms
Roundworms
Intestinal Threadworms
Tapeworms

Note that although tapeworms are listed above, Pyrantel Pamoate will not prove terribly effective against them unless a double dose is applied. Pyrantel Pamoate wormers are safe for horses up to 20 times the standard dose.

The most popular Pyrantel Pamoate-based wormers are Strongid and Exodus.

Moxidectin-Based Wormers
Effective Against:

Encysted small strongyle larvae
Bot fly larvae
Moxidectin has been the subject of controversy and for good reason. It is the only horse wormer that is capable of killing the above larvae in a single dose, which is a very impressive feat. Its liability is that the overdose tolerance threshold is far less than other wormers; 5 times the standard dose can cause significant damage to your horse.

Whereas it may be difficult to give an adult horse an overdose 5 times the standard dose, it's extremely easy to make this mistake when worming a foal. <u>As such, at no time would I recommend using this wormer on foals or weakened horses</u>.

The most popular Moxidectin-based wormer is Quest.

Knowing which parasites each of the above wormers are effective against is a good first start, but in the world of parasite prevention the difference between success and failure ultimately lies with how you plan your horse worming schedule.

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PARASITE PREVENTION:
<u>Proper Parasite Prevention Practices</u>
From Alpha Horse

Horse parasites can be combated with a well-planned horse worming schedule that incorporates a variety of quality horse wormers, but whereas horse wormers are invaluable aids to help destroy parasites that do manage to infest your horse, our ultimate goal should be to follow proper parasite

prevention practices in order to minimize the quantity of parasites that do make it into your horse.

Keep The Stable Clean

Maintaining a high level of cleanliness within your stable is one of the most important parasite preventative measures you can take. Horse parasites thrive in muck-covered, moist stalls, so make sure you clean each stall of manure at least once daily and keep plenty of clean, dry shavings on hand. It can be handy to thoroughly disinfect each stall once weekly too.

Keep Food Off The Floor

Since the floor is a primary source for parasites it's important to keep your horse's mouth away from it as much as possible. Attach a hay rack to the stall wall so your horse can eat the majority of his hay in a clean, upright position. Make sure any feed or grain is served inside a grain bucket, preferably one that attaches to a stall corner rather than one that sits on the floor and can easily be kicked over. The side benefit to keeping food off the floor is a horse also ingests less dirt.

Keep The Pasture Clean

Try not to permit manure to accumulate in the grazing pastures as that provides a prime living condition for horse parasites. It's a good idea to take a muck rake and clear the pasture of manure once a week.

Rotate Your Pastures

Parasites thrive in fields that are overcrowded and overused, so if room permits try to rotate the pastures every couple of weeks. By disallowing use of a pasture from time to time the elements will better kill off any residing parasites.

Wet Pastures Are A Problem

Horse parasites thrive in wet conditions, so horses are much more exposed when they are grazing from wet fields. Consider keeping younger horses in a paddock with plenty of hay during such conditions.

Isolate Newcomers

Do not introduce a new horse to your herd until he has undergone a de-worming program. Since all your horses are presumably kept on a thorough horse worming schedule, newcomers who haven't been cleansed can be the largest contributor to a parasite infestation.

The above tips will not guarantee your equine partner has complete protection against horse parasites, so they should not be used in place of horse wormers. That being said, if you own just one horse and his atmosphere is kept clean and sanitary then you can probably worm him less often than the normal recommended frequency.

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Worms! Wage War on Equine Parasites

The American Association of Equine Practitioners (AAEP) offers these tips for removing internal parasites before they can attack your horse!

Internal parasites -- worms -- are silent killers. They can cause extensive internal damage, and you may not even realize your horses are heavily infected. At the very least, parasites can lower resistance, rob the horse of valuable nutrients, and cause gastrointestinal irritation and unthriftiness. At their worst, they can lead to colic, intestinal ruptures, and death.

Using deworming agents on a regular schedule in combination with good management procedures is critical to relieving your horse of most parasites. Since parasites are primarily transferred through manure, good management is key. In terms of management priorities, establishing a parasite control program is probably second only to supplying the horse with clean, plentiful water and high quality feed.

To get rid of parasites before they attack your horse, follow these suggestions from the American Association of Equine Practitioners (AAEP):

* Pick up and dispose of manure droppings in the pasture at least twice weekly.
* Mow and harrow pastures regularly to break up manure piles and expose parasite eggs and larvae to the elements.

* Rotate pastures by allowing other livestock, such as sheep or cattle, to graze them, thereby interrupting the life cycles of parasites.
* Group horses by age to reduce exposure to certain parasites and maximize the deworming program geared to that group.
* Keep the number of horses per acre to a minimum to prevent overgrazing and reduce the fecal contamination per acre.
* Use a feeder for hay and grain rather than feeding on the ground.
* Remove bot eggs quickly and regularly from the horse's haircoat to prevent ingestion.
* Rotate deworming agents, not just brand names, to prevent chemical resistance.
* Consult your veterinarian to set up an effective and regular deworming schedule.

With the many safe, convenient products available today, establishing an effective deworming program is easy. Discuss a plan with your veterinarian and implement it without delay. A good parasite control program will go a long way toward maximizing your horse's appearance, performance and comfort. The net result will be an animal that is as healthy on the inside as it appears on the outside.

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BOTFLIES:
The following resources are for informational purposes only. Please consult your vet. to determine the best program for you & your horse in your geographical location.

Understand and Control Botflies

Understand a bot's life cycle and learn how it can affect your horse and how to control it.

By Jayne Pedigo

During the summer and early fall months, you may notice the appearancs of small yellow-ish dots on your horse's coat. These are the eggs of Gasterophilus, the botfly, which the botfly lays on the hair shafts on the chest and forelegs of the horse. Botflies are particularly annoying to horses, causing them to stamp and bite at themelves.

This biting action of the horse stimulates the larvae to hatch from the eggs and the horse then, in the course of his licking and biting, takes the larvae into his mouth. Once in the mouth, the larvae burrow into the cheeks and tongue of the horse, where they remain for about three weeks. While in the mouth they do not appear to cause any discomfort or worry the horse.

From the mouth, the small larvae migrate to the stomach, where they develop into larger larvae. They attach themselves to the stomach wall by their teeth. They stay in the stomach all winter, and can cause gastritis and even perforation of the stomach. In the spring, they release their hold and pass out in the manure to develop into adult flies and begin the life cycle again.

Horse owners can control the infestation of their horses by use of a bot knife to remove the bot eggs from the hair on a daily basis during the fly season. In addition, modern dewormers containing ivermectin are efficient at killing the larvae that reach the stomach. For this reason, many veterinarians advocate the rotation of dewormers to include products containing ivermectin, in the fall and again in the spring for maximum efficiency.

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SUMMER SORES:
The following resources are for informational purposes only. Please consult your vet. to determine the best program for you & your horse in your geographical location.

Summer Sores

Summer sores are caused by the infected larvae of stomach worms, which are deposited into skin abrasions on horses. Learn how to control and prevent these unsightly skin lesions.

By Jayne Pedigo

All horse owners have to deal with the nuisance of summer insect pests. It seems to simply be part of life around horses. However, some of these pests aren't just a nuisance, they can actually cause a health hazard to your horses.

Case in point is the common fly. Among other things, flies can carry the larvae of two different types of stomach worm, Habronema muscae and Draschia megastoma, known as Spurids. When these larvae are deposited on skin abrasions, they can cause skin lesions known as summer sores.

These sores can heal up quickly in winter, but often recur in the warmer months of summer, hence the name. The lesions seem to cause intense itching and horses will chew and bite at them, delaying the healing process and in many cases allowing secondary infections to occur.

If you've had to deal with summer sores, you will know that topical applications of antibiotics and salves aren't fully effective. They seem to start responding and then come back again. When the horse bites and chews at them they can quickly take on a bloody and unsightly appearance. In order to control the larvae that cause the infection, it's necessary to apply an anthelmintic directly to the site. Dichlorvos and Trichlorfon have been shown to be effective in treating summer sores.

Prevention is better than cure and the prevention of choice is a strict deworming program. Ivermectin is effective against the Spurid larvae which cause summer sores, so a deworming program which includes at least two treatments of Ivermectin each year will control both summer sores and stomach worms.

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TAPEWORMS:

The following resources are for informational purposes only. Please consult your vet. to determine the best program for you & your horse in your geographical location.

The Skinny on Tapeworms

Tapeworms may not be completely harmless to your horse but they are easy to control.

By Laurie Bonner

While grazing, horses can ingest mites containing tapeworm larvae.

If you had to live as a primitive animal, being a tapeworm wouldn't be so bad. Imagine a perpetual vacation at a Caribbean resort, where you have nothing to do but bask languidly in the sun, while an unending stream of wait staff carries to you all the food and drink you desire; you don't have to move a muscle as you dreamily contemplate the poor blokes struggling to meet their deadlines back at the office.

That's not far from a tapeworm's existence. Unlike most animals, who spend their lives evading predators while battling for food, mates and territory, tapeworms spend their adult lives in warm environments safe from predation, bathed in a continuous stream of nutrition.

OK, the scenery may be nicer on the beach than inside a horse's intestine, but tapeworms don't have eyes, anyway. The point is that tapeworms live a pretty stress-free life, and it's really in their best interest to avoid damaging their host-injuring the horse would mean jeopardizing their only source of survival. In fact, tapeworms are among the least dangerous internal parasites your horse can have. "There have been some studies that have been able to correlate the presence of tapeworms with certain disease signs but most horses probably don't suffer anything remarkable," says Craig Reinemeyer, DVM, PhD, a parasitologist with East Tennessee Clinical Research. "If you were leaning over the fence looking at a horse with tapeworms, you probably wouldn't notice anything at all wrong with him."

When they do appear, the outward signs of tapeworms-frequent mild colics, unthriftiness, mild diarrhea-are easy to miss or to mistake for other conditions. But if a horse is consistently "off"-dull coated, not gaining weight as fast as he should, colicking frequently-and all other physical maladies have been ruled out, tapeworms may be the culprit.

The generally benign nature of tapeworm infections is good news because many horses have them. "Surveys here have shown that 50 to 60 percent of horses that died from various causes and were necropsied here also had tapeworm infections," says Eugene T. Lyons, PhD, a parasitologist with the University of Kentucky's Gluck Equine Research Center. That infection rate has been consistent over the past few decades. In separate surveys published in 1983 and 2000, Lyons and his colleagues found the tapeworm Anoplocephala perfoliata in 54 percent and 52 percent of the horses they examined in Kentucky. Infection rates vary from region to region, however. "We find tapeworms in as few as 5 percent to as many as 25 percent of the different populations of horses we study," says Reinemeyer. "But we have found individual farms where the rates can go to 60 percent or higher."

A Tapeworm's Life

Because tapeworms pose a relatively small threat to horses, they have received much less research attention than more dangerous worms, such as strongyles. "We know so much about other parasites and so little about this one because it usually doesn't cause serious problems," says Lyons. "It's also difficult to reproduce the tapeworm life cycle in study conditions."

Researchers do know how the tapeworm's life cycle works. An adult tapeworm consists of a head-that attaches to the intestinal wall with a set of suckers-and a segmented body; each segment contains within it a complete set of reproductive organs that can produce eggs independently. As the worm grows, the lower segments separate and their eggs are carried off in the passing stream of digesting food on their way out of the horse's body. Once on the ground, the manure is broken down with the help of oribatid mites; the mites ingest the eggs, which develop into larvae inside their bodies. If the larvae-carrying mites crawl up onto the grass and are eaten by a grazing horse, the tapeworm larvae will settle into a new host.

But many questions remain. "In a site where tapeworms are common, some in a herd will have them and some will not. No one knows why," says Reinemeyer. "Acquired immunity probably plays a big role, and like any type of immunity, some will develop it better than others." Age doesn't seem to matter; tapeworms have been found in horses young and old. "But we've never found any in a horse younger than nine months, so we don't even bother to look anymore," he adds. "We don't really know why."

What Harm Do Tapeworms Do?

No one is quite sure how much-if any-harm these tapeworms inflict on a horse's gut. A. perfoliata, which is by far the most common of the three tapeworm species known to infect equines in the United States, is too small to physically block a horse's intestine, even in relatively high numbers. Its adult size is only 5 to 8 cm long and 1.2 cm wide. And a worm that size isn't likely to "rob" your horse of enough nutrition to seriously affect his health, either. But they can do some damage. "They cause inflammation of the intestinal wall at the site of attachment," says Reinemeyer. "Can it be fatal? In rare cases, yes." A. perfoliata is most likely to attach to the horse's intestine near the ileocecal valve, the point where the small intestine empties into the cecum. "The supposition is that the worms favor that location because the material from the small intestine is very nutritionally rich with sugars and proteins that have

already been broken down into forms that may be better absorbed," says Reinemeyer.

While grazing, horses can ingest mites containing tapeworm larvae.

Concentrations of worms at that small opening-at about 5 cm in diameter, the ileocecal valve is one of the narrowest points of the horse's gastrointestinal tract-are associated with several health problems. A British study published in 1998 showed that horses with tapeworms were 22 percent more likely to experience spasmodic colic and 81 percent more likely to experience an impaction colic at the ileocecal valve. In rare cases, the inflammation can also cause ulcerations of the intestine, leading to peritonitis, an infection of the abdominal lining. Tapeworms are also believed to contribute to a thickening of the intestinal wall, as well as ileocecal intussusception, a condition where the end of the small intestine "telescopes" through the valve and into the cecum. "The gut basically crawls inside itself, pulling itself inside out, like when you pull off a stocking," says Reinemeyer. "When that happens, the inside layer is squeezed by the outside layer, and it can cause painful colics."

Although researchers have been able to connect the presence of tapeworms with increased prevalence of these conditions, they don't know exactly how the worms cause the problems, if indeed they do. After all, horses can develop these types of colics without worms, and many who carry tapeworms all their lives show none of these signs. "We see many older horses who have a high wormload and yet never developed any pathological changes," says Lyons. "Just because the worms are there doesn't mean they are causing problems. But people should be aware that they sometimes have been associated with serious detrimental effects, especially in younger horses."

A complication of tapeworm research is the fact that most of the data about tapeworms are derived from counting them in dead horses. In living horses, it's difficult to know whether tapeworms are present because their eggs are notoriously hard to find in standard fecal float tests, which analyze the number of parasite eggs that come to the surface when a manure sample is mixed with a dense salt solution. "Their eggs don't float very well," says Lyons. In addition, tapeworms release eggs only intermittently, so the fecal exam would have to be repeated every day for several days. All of which means that the presence of tapeworms can easily go undetected unless the horse is carrying a particularly heavy load.

"The number of worms in a single horse can reach the high hundreds-800 or 900," says Reinemeyer. "We commonly find as many as 150, but the average

is probably less than 100. But no one has been able to prove an association between the number of tapeworms and the onset of disease."

Risk Factors

Horses get tapeworms by ingesting oribatid mites that carry tapeworm larvae. Oribatids are a superfamily of mites that live in different ecosystems all over the Earth, including Antarctica, and they play a vital role in recycling organic wastes. "Their job is to help improve soil fertility by eating organic matter, excreting it, and mixing it up within the soil," says Merijo Jordan, DVM, a graduate student at the University of Florida who has studied the tapeworm life cycle. "They are little decomposers." About 7,000 species of oribatids are thought to live in the United States, says Jordan, but only 14 genera are known to act as intermediate carriers of A. perfoliata eggs.

Oribatid mites are present in every grassland in the country. "Usually, when we are doing a study we can find 30 to 50 species on a pasture in a temperate zone," says Jordan. In her studies in Florida, Jordan has counted a range of different species in the upper teens and lower 20s. "Generally, about half are suspect carriers." But the mites themselves pose no threat for horses. Oribatids are free-living animals, not parasites; they live on every pasture, whether or not the tapeworm eggs are present. Nevertheless, tapeworm infections are likely to be more prevalent under climate conditions that favor larger populations of the mites, so researchers are working to understand the living conditions oribatid mites like best.

"Temperature and humidity are thought to rule where the mites live," Jordan says. "In the dawn and dusk, they seem to like to move up onto the grass. In the heat of the day, they will be down in the top layer of soil, and when it's really hot or really cold, they'll go down deeper into the soil." But Jordan cautions that these behaviors are not absolutes, and pulling a horse off pasture at certain times of the day is not likely to have any effect on whether he will ingest the mites. As of yet, there is still no absolute way to predict what time of the day or what season of the year the mites are most likely to be active-and the most likely to cross paths with grazing horses.

"We're also still trying to figure out how humidity affects oribatid populations," says Jordan. "Most of the work seems to be in the temperate regions. The mites are probably not as prevalent in the arid climates, but no one has proven it." Reinemeyer suspects that horses in the West and Southwest, where larger ranges are more common, are less likely to graze over areas tapeworm eggs have been deposited. "In my studies, we've never seen

tapeworms in horses from those regions," he says. "That's not scientific, but my general impression is that they are more likely to occur in horses from the Eastern pastures and on the West Coast."

Because the mites live in green grass, it seems likely that horses on pasture are more at risk of encountering tapeworms than are horses kept stabled and fed only hay and grain. "But some confined horses could still be at risk, especially if they are fed green chop recently cut from outside," says Reinemeyer. "There is also some evidence that round bales, because they sit outside, may still provide a reasonable habitat for mites, especially if the bales sit on the ground, where the hay may still harbor moisture."

Deworming Strategies

The first equine dewormer formulated specifically to control tapeworms was recently approved by the Food and Drug Administration and should be available to the public by the end of the summer. Zimecterin Gold, manufactured by Merial, controls 61 species of equine parasites, including tapeworms. The new product combines two active ingredients, ivermectin, an anthelmintic agent common in many equine dewormers, and praziquantel, a drug used to control tapeworms in dogs and cats. According to Merial, Zimecterin Gold can be included in any deworming rotation program. "We recommend treating for tapeworms at least twice a year," says Duane Maye, DVM, product manager for Merial. "The fall and spring are good times to treat for tapeworms, But you could use it at any point in the year." Zimecterin Gold will be available through veterinarians, tack and equine supply catalogs.

Tapeworms are rarely a problem for horses, so they haven't received a lot of attention, but they may occasionally cause serious trouble. Tapeworms are sometimes the culprit in horses who mysteriously fail to thrive or develop frequent digestive problems, and it may be wise to consider taking preventive action against these worms, even if you're not sure whether they're present. "Unlike other parasites, which can really cause serious problems, we can't predict what tapeworms will cause," says Lyons. "But there's always a potential for trouble. We don't want people to overreact, but this is a problem we want people to be aware of."

This article first appeared in the April 2001 issue of EQUUS magazine