



Worms & Worming

Preventing disease and avoiding contamination

Worms are still considered to be one of the most common causes for diseases of the intestine of the horse. Worm infestations can cause varied symptoms, some of which can even lead to death. Commonly encountered problems are colic, diarrhoea, weight loss, poor performance and even persistent coughing. You must be aware how dangerous worms can be. The effectiveness of worm control programs is dependant on a lot of factors and needs to be monitored by analysing dropping samples under the microscope. Worm egg counts are relatively cheap and our lab can provide you with answers within two working days.



TYPES OF WORMS AND PARASITES

Parasites are creatures that live at the expense of their host. Endoparasites live inside their hosts (i.e. redworm in the gut of the horse). Worms and bots are examples of endoparasites that burden our domestic horses. In contrast, ectoparasites are organisms that live on the outside of their hosts. These include nasties such as lice, ticks and mites.

Roundworms are the most common burden for horses. In general, eggs are passed in the droppings which then develop into immature worms (larvae) before becoming infectious to the horse. Inside the horse further immature stages will migrate through the body. Eventually mature worms will arrive inside the gut and lay eggs that are passed in the dung. The main roundworms are discussed below:

Redworms

Redworms are the most common worms to cause disease in the horse. The *large redworm* has immature stages that migrate through the bloodstream and several organs. This can cause various, potentially fatal, symptoms. Obstruction of vital blood vessels is a frequent complication. The larvae of the *small redworm* will migrate through the wall of the intestine, and cause starvation from blood to sections of the bowel. Redworms have an ability to remain dormant inside their hosts for several months. While they are dormant, some wormers may not be very effective. This massive population of hibernating worms can be activated at the same time, causing severe diarrhoea or colic. Damage to the tissues and activity of these worms can be assessed through simple blood samples.

Large roundworms (Ascarids) are more likely to cause disease in foals than in adult horses. They migrate through the lungs before reaching maturity. A large proportion of 'colds' in young animals are associated with these worms.

Lungworms

Lungworms do not usually reach maturity in horses and consequently the infection cannot be carried over from one horse to another. Donkeys are the normal source of infection. Because the larvae of this worm arrest in the lungs of the horses, permanent scarring of the lung can occur and symptoms will mimic a dust allergy.

Threadworms

Threadworms infect very young foals and have been implicated to cause diarrhoea. They are passed on from the dam to her foal in the milk and through her droppings.

Other types of roundworm do exist but are less likely to cause disease.

Tapeworm

Tapeworms have been implicated as a cause for colic. Eggs of this worm are passed with the droppings in segments of tapeworm. On the pasture, these eggs are ingested by grassmites where they develop to immature cysts. When a horse accidentally eats an infected mite, it in turn becomes infected. Impaction colic is the most frequent symptom of tapeworm infestation.

Bots

Bots are the larvae of the bot fly and they cause erosions of the stomach wall. The adult female fly will lay her yellow eggs on the horse's coat and when hatched they become infectious to horses that lick or bite. Many horse owners will have noticed the sticky eggs on their animals' coats in the summer and autumn. Removal of these eggs is the best prevention, but Ivermectin and Moxidectin wormers are also effective.

DIAGNOSIS OF WORMS

Sometimes we can reach a suspicion of worm infestation through careful examination of the history and symptoms. Worm damage can have devastating consequences for the function of the intestine, sometimes years after the horse was exposed to large numbers of worms.

Most worms will only be detected in the droppings when they die. Even then, they can be so small that the naked eye would not necessarily notice them. The only time when worms shed eggs is when they are mature and the only reliable way to diagnose a presence of worms in the droppings is to check for worm eggs under a microscope.

Faeces samples submitted for worm egg counts should be taken just before worming is due. Just bring in one faecal ball in a sealed container and this inexpensive test can be carried out in our lab. Worm egg counts determine how many eggs per gram can be found in the sample. These lab tests are invaluable to make sure that your worming program is effective and to prevent billions of worm eggs being passed onto your paddocks.

As discussed earlier, blood samples can be analysed for the presence of indicators of tissue damage. These indicators can be raised in cases of active worm infection or in cases of scarring due to old damage.

TREATMENT OF DISEASES CAUSED BY WORMS

Treatment will depend on the symptoms that your horse exhibits, but usually an appropriate anthelmintic (wormer) will be included. Roundworms are killed by Benzimidazoles (Panacur, Telmin, etc.), Ivermectins (Noramectin, Panomec, Eqvalan or Furexel), Pyrantel (Strongid P or Pyratape) and Moxidectin (Equest). Tapeworms are killed by double doses of Pyrantel and by Praziquantel (Equimax). Panacur Equine Guard and Equest seem the most effective to destroy hibernating larvae. Panomec, Eqvalan, Furexel and Equest also destroy some immature stages.

With all worming, care should be taken to make sure every horse gets an adequate dose and no wormer is spat out. If in doubt, slight overdosing is harmless, but should prevent resistance development in the worm population. We recommend worming every 6-8 weeks, but with Moxidectin products the worming interval can be stretched to 10-12 weeks. Wherever possible, **all horses that go out together should be treated at the same time.**

Even when horses are mainly stable kept, worm burdens can build up.

PREVENTION OR CURE?

Daily muck picking of the fields can help prevent larvae spreading. This is a cumbersome task and few people manage to keep this chore going. The droppings should not be dispersed over the paddocks unless very hot and dry weather can be guaranteed. Grazing other species, such as sheep, in the same fields will have some diluting effect on the amount of worms but will not prevent infection. Similarly, extensive grazing is beneficial.

Strategic worming programs should be implemented in most horse populations to avoid parasitic disease, which can at its worst lead to death. The worming programs will serve three main purposes, namely preventing disease in individual horses, avoiding contamination of the pastures and also avoidance of the build up of resistance against wormers.

RECOMMENDED DE-WORMING PROGRAMS

It is worth pointing out that youngstock on stud farms may require more intensive worming programs and horses that are kept on heavily contaminated fields may require more intensive worming as well.

As discussed, each of these different worming programs should be adhered to for a whole year before going on to the next worming program. After running through each one, the first program has to be started again. Diagnosis of worm burdens in individual horses is best achieved by blood samples.



AVOIDING DISEASE

It is probably best for individual horses to have some exposure to parasites during their life. They will build up an immunity against them which, in many cases, protects them against becoming seriously ill. However some horses do not seem to build up good protection and they become ill. Many parasites will cause scarring of the intestinal tracts, which can result in poor digestion and weight loss, colic and even death. Parasite control programs to prevent high worm burdens are vital. Redworms have developed a way of avoiding being killed by wormers as well as ways of escaping the natural defence mechanisms of the horse. Their immature stages seem to be able to lie dormant inside the horse for many months, in spite of regular worming.

Avoiding worm contamination of pastures

By implementing deworming programs to which all horses are subjected, massive worm burdens on the fields can be avoided. Through avoiding these burdens, horses will be less exposed to worms, which will result in fewer hibernating larvae inside them. After several years of good pasture management and effective worm programs, the fields will be relatively clean and much safer for your horses. Daily muck picking of the fields is an important way of avoiding major contamination.

To monitor whether worm control programs are effective, dung samples of at least 20% of horses that go out together should be analysed by the practice laboratory

In carefully controlled situations, programs could be instigated where chemical worming is minimised. These programs require very regular dung-picking, un-contaminated pastures and a willingness to bring in regular dropping samples. Our vets and nurses will be able to explain more about these.

Avoiding the build-up of resistance in worms

If the same wormer is always used, the most resistant worms will always survive. Slowly but surely a worm population that is not responsive to these wormers will be built up. It is therefore vital to rotate wormers. Recent research has shown that the best way of avoiding resistance is by using worm programs that are mainly based on one wormer per year. Many worms are now resistant to the benzimidazole group of wormers. House & Jackson do not advocate the use of these wormers, unless in high doses for five consecutive days. This five day course seems to be effective against the hibernating larvae inside the horse.