

Types of Worms

There are many species of worms that affect horses, but the most important ones are listed below.

Large Red Worms (Strongyles)

These are the type of worm which in the past owners and vets were most concerned about. The life cycle of these species involves migration of larvae from the bowel into the abdomen, before returning back to the bowel as adult worms. These worms may be associated with general signs of malaise; but one species, *Strongylus vulgaris*, migrates specifically to the arteries supplying the bowel and can cause obstruction to the blood flow, resulting in a serious form of colic sometimes necessitating surgery. Modern worming regimes are usually very effective at killing these species and so recently their significance has diminished.

Small Red Worms (Cyathostomes)

As the significance of large red worms has declined over the past twenty years or so, the problems associated with this group of worms seem to have dramatically escalated. This is due in part to their relatively short life cycle, but is also a consequence of the ability of these worms to develop resistance to modern wormers. This problem of resistance is compounded by the tendency of these worms to "hibernate" in the lining of the bowel. When a horse swallows cyathostome larvae from the pasture, the larvae develop within the lining of the bowel and then re-emerge as adults. However a proportion remains within the lining and may remain there for years. Whilst hibernating these inhibited larvae are resistant to many types of wormer. The larvae then re-emerge, often at the end of winter and this re-emergence may involve large numbers at the same time, resulting in enormous damage to the bowel wall, which may even prove to be fatal.

Tapeworms(Cestodes)

These worms are less likely to cause problems compared to the red worms, however they are a potential cause of colic. Tapeworm eggs are not usually detected in dung samples, but a blood test is available.

Lung Worm (Dictyocaulus arnfieldi)

Donkeys are the natural host for these worms, and don't usually show any symptoms. However horses grazing in the same field, or in a field previously grazed by donkeys, may also be affected. The worm does not usually complete its life cycle in the horse and so is not often detectable by faecal worm counts. Horses affected with significant numbers of this worm cough due to the presence of the larvae within the lungs.

Roundworms (Ascarids)

Usually affect young horses only, typically foals and yearlings. Despite this worm being an intestinal parasite, infestation often results in coughing. This is due to the larvae migrating through the lung on their way to the intestine.

Pinworm (Oxyuris)

No significant disease implications but can cause irritation to the horse around the anus.

Bots (Gastrophilus)

In truth these aren't really anything to do with worms, but are often put into the same category by owners. Bots are the larval stage of a certain species of fly. This fly lays its eggs on the horse's coat, often around the forelegs and neck, which the horse then swallows when it grooms itself. The eggs then develop and the larvae remain in the stomach, until they are passed in the dung as pupae. Finding these pupae in the dung may be distasteful, however it is very rare for bots to cause any medical problems.

Worming Diary

Horses should be wormed every 6 to 12 weeks. A wormer has yet to be invented which treats all parasites, so it is very important to work out an annual routine incorporating different wormers with your Veterinary Surgeon.

The following is an example worming chart

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Treat any new horse with Panacur Equineguard or Equest and double dose Pyratape P on the sixth day											
Encysted Small Redworms Larvae Additional dose to remove larvae acquired over winter. Administer Panacur Equineguard or Equest			GRAZING SEASON Routine worming (every 4 to 13 weeks) Use one type of wormer for the entire grazing season i.e. 12 months starting late autumn - changing to a different chemical group for the next season. Moxidectin - Equest (Every 13 weeks) Ivermectin - Equivalan, Eraquell or Furexel (every 6 to 8 weeks) Benzimidazole - Fenbendazole, Multiwurma-F granules, Panacur, Zerofen, Fenbendazole, Tolmin						Encysted Small Redworms Larvae Optimal time to treat. Administer Panacur Equineguard or Equest		
Tapeworm Double dose : Pyrantel (Pyratape P) Start routine worming 4* to 6 week later. *4 weeks for young stock									Tapeworm Double dose = Pyrantel (Pyratape P) Administer Panacur Equineguard 4 to 6 weeks later		
									Bots Late autumn, ideally after the first frost. Administer - Ivermectin or Moxidectin		

Before worming your horse it is advisable to consult your veterinary surgeon about suitable doses, which are dependent on the weight of the animal and the type of wormer (anthelmintic). Knowing your horse's weight is vital when worming. Manufacturers advise horse owners to check the weight of their horse, either by using a weighbridge or, by using a girth measuring tape, before deciding on a suitable dose.

Do not simply go on height and build; a 16hh Thoroughbred will be a different weight to a 16hh Irish Draught.

Powder Or Paste

Anyone who has ever attempted to [worm a horse](#) knows how difficult it can be despite manufacturers devising numerous ways to make the medicine palatable.

Granules, powders or pellets can be mixed with a horse's feed but you need to keep a close eye to ensure the entire dosage is eaten. Many horses will carefully separate their feed from the wormer, leaving the drug in the bottom of his bowl.

Alternatively the wormer can be given in the form of paste by oral syringe. Worming in this way is an art if you are not going to end up wearing most of the paste.

Chemical Groups - Commercial Wormers

Every wormer contains one of five ingredients, namely Pyrantel Embonate, Ivermectin, Moxidectin, Mebendazole and Fenbendazole (one of the Benzimidazole group). So look on the packet for the ingredient when buying a wormer.

Benzimidazoles (Fenbendazole)	Ivermectin	Mebendazole	Moxidectin	Pyrantel Embonate
Multiwurma F	Eraquell	Telmin	Equest	Pyratape P
Panacur	Eqvalan			Strongid-P
Panacur Equine Guard	Furexel			
Zerofen				

Detailed instructions are included with each medicine, we therefore recommend you always read the package labelling or leaflet within the pack, before using any product. The worming drugs currently available for use in horses are extremely effective. However, horse owners should realise that individual drugs only treat certain worms and that some drugs only treat some of the life-cycle stages of certain worms.

A further complicating factor is that some worms have developed resistance to certain worming drugs. The more frequently worms are exposed to the drug, the greater the chance of resistance developing. It is not as simple as giving a dose of wormer and all the worms are killed!

Tapeworms	Bots	Encysted Small Redworms	Migrating Large Redworms
Strongid P		Panacur Equineguard	Panacur Equineguard
Pyratape P	Equest	Equest	Equest
	Eqvalan		Eqvalan
	Furexel		Furexel

See [worm cycle](#) for more information on worms.

Only two wormers can kill hibernating small red worms, Equest and Panacur Equine Guard. All worm programmes should include at least one treatment with one of these per year.

You may also find it useful to have a worm count done on your horse's droppings. These are inexpensive and will give you a good idea of how effective your worm control is.

Mares in Foal

No extra anthelmintic treatment is needed for the mare as long as she is included in a sensible control programme but it is always advisable to consult your Veterinary Surgeon. However, to reduce her output of worm eggs which her foal may then consume she should receive an additional dose of Ivermectin approximately 4 weeks before foaling.

Foals

It is very important to worm foals at 4-6 weeks with Ivermectin then every eight weeks, before the worms reach maturity. Do not administer Equest to young foals less than 4 months of age.

New Horses

Introduced to a yard should be wormed with moxidectin and kept in a box or restricted paddock for a two days with collection and disposal of droppings prior to any introduction to communal pasture. This should be followed by a five-day Fenbendazole course to treat any inhibited and remaining encysted small redworms present. These horses should also be blood tested for tapeworms and treated with "double-dose" Pyrantel P or Strongid P depending on the results. Monitor faecal egg counts every three months initially to ensure your programme is adequate.

Your worm control will only be as good as your [grassland management](#). Picking up droppings in the field, daily, not allowing the ground to go 'horse-sour' and keeping weeds at bay are essential. Rotating cattle or sheep after the horses have grazed the land and ploughing, liming and reseeding every few years will help prevent worm infestation on the pasture.

Note: Wormers are constantly being developed and you should always consult your veterinary surgeon for personal advice for your horse in your region.

How to Control Parasitic Worms

What is a Parasitic Worm?

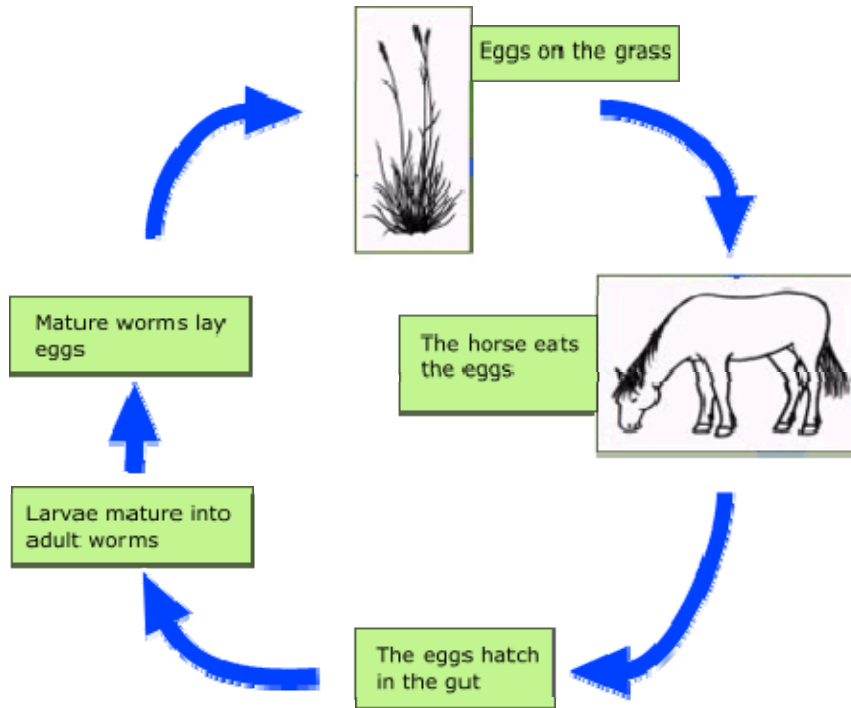
Gastro-intestinal parasites (worms) affect all horses and ponies and include various species of nematodes (which are slender segmented worms). The definition of a parasite is an animal or plant living in or on another and drawing nutriment directly from the host. Parasitic worms damage the intestines, as they attach to the inside of the gut, suck blood and burrow through the body of the host during the migratory part of their life cycle.

The Life Cycle Of A Worm

The eggs, which are passed out in the dung, undergo a period of incubation of several days. The infective larval stage hatches from the egg, under ideal conditions this is within about a week. The larvae migrate in the water film over the surface of the plants and spread themselves through the grass around the droppings. From here, a suitable host (e.g. your horse) must eat them. They can then develop into the adult worm.

Development of most species is slowed or halted by winter temperatures, (assuming we have

some cold weather and frosts). Dry weather causes the death of some larvae and their movement to edible grass is slowed without the water film on the grass.



The following table summarises the different species of worms!

Type	Species	Incubation - Larvae	Incubation - Adult
Large strongyles (Redworms)	<i>Strongylus vulgaris</i>	Intestine Arteries Liver	Caecum Colon
Small Strongyles	<i>Trichonemaspp.</i>	Intestinal wall	Caecum/Colon
Ascarids (Roundworms)	<i>Parascaris Equorum</i>	Liver/lungs	Small Intestines
Threadworms	<i>Strongyloides Westeri</i>	Various tissue	Small Intestine
Pinworms	<i>Oxyuris equi</i>	Intestine wall	Colon/Rectum
Lungworms	<i>Dictyocaulus arnfieldi</i>	Lungs	Bronchi of lungs
Tapeworms	<i>Anoplocephala perfoliata</i>	Intermediate host (mites)	Small Intestine/caecum
Bot	<i>Gasterophilus spp</i>	Stomach	Gadfly (insect)

Reducing The Worm Burden

Environmental and management factors can directly influence the development and survival of the worm population on the grass. Combined with an efficient worming programme, this can greatly reduce the threat of harmful parasitic infestation.

One way to reduce the worm burden is to start with a 'clean' pasture, this is especially important when the larvae population is high, during the spring, summer and autumn. Large numbers of larvae on the grass coincide with the best growing conditions for grass (warm and wet). This is when most horses spend the majority of their day grazing.

Land that has not been grazed since the previous autumn and has been harrowed, rolled and fertilised, then been cut for hay/silage is the 'cleanest'. If the grass is grazed in the spring, then topped, harrowed and fertilised; left to rest for 6 weeks and then grazed by cattle or sheep this will also help to reduce the worm problem.

Cattle prefer longer grasses and are therefore more suitable to graze with horses than sheep; they will also eat grass that horses avoid. Sheep will eat the docks but graze the grass very short. Larvae eaten by cattle or sheep will be destroyed as both cattle and sheep are ruminants.



Picking up dropping from the paddock is vital, this job should be done at least twice a week, but daily is more advisable and also less of a chore. Two horses in a field skipped out daily take about 20 - 30 minutes, plenty of time to observe your horse.

[Worming your horse](#) 24 hours before turning out into fresh pasture will also help to keep the paddock 'clean', and making sure that you collect all the dropping produced will greatly reduce the worms in the paddock.

When purchasing a new horse, keep him/her isolated from any other horses until your vet has done a faecal count and the horse has been wormed accordingly.



Finding Out About Your Horse's Worm Burden

By counting the number of eggs in a few balls of dung your veterinary surgeon can find out about your horse's worm burden. The vet can then

advise you as to how much and of what brand of drug to use to eliminate the worms. Subsequent egg counts done 10 to 14 days after the initial treatment will reveal whether the treatment has been successful or whether the worms have developed a resistance to the drug used.

Resistance occurs partly because owners worm without expert advice, using incorrect amounts of drugs and at the wrong intervals. This creates a breed of resistant 'super-worm' that can cause major problems.

The parasitic worm has a very efficient life cycle and has been around for as long as there have been horses. We cannot eradicate the worms' only keep it under control with good pasture management and [regular doses of anthelmintic wormers](#).

The table below shows the class of wormers and which worms they are effective against:

	Large Redworms <i>Strongyles</i>	Adult Small Red Worms <i>Cyathostomes</i>	"Hibernating" Small Red Worms <i>Cyathostome Larvae</i>	Tape worms	Round worms <i>Ascarids</i>	Pinworms <i>Oxyuris</i>	Bots
Ivermectin (8-10 week interval) e.g. Eqvalan™ Furexel™ Panomec™	Yes	Yes	No	No	Yes	Yes	Yes
Moxidectin (13 week interval) Equest™	Yes	Yes	Possibly	No	Yes	Yes	Yes
Pyrantel Ebonate (6 week interval) Pyratape P™ Strongid-P™	Yes	Yes (possible resistance)	No	Yes	Yes	Yes	No
Benzimidazoles (6-8 week interval) Fenbendazole e.g. Panacur™ Mebendazole e.g. Telmin™ Oxibendazole e.g. Lincoln™ Equitac™	Yes	Yes	Yes (resistance common)	No (5 day course)	Yes	Yes	No
(Praziquantel)	No	No	No	Yes	No	No	No