



RESPONSIBLE
HORSE OWNER BOOKLET

PARASITE CONTROL



INTRODUCTION



Whilst most of us understand the need to worm our horses, there is evidence to suggest that many of us are not treating our horses in the most effective way.

With an increasing risk of resistance to anthelmintics (wormers), it is vital that we adopt an effective worming strategy to protect our horses and ponies from the threat of irreversible damage. Equally there are many external parasites which affect horses. Early recognition and prompt treatment of these will allow more effective control.

This guide is part of a series covering a range of different topics to help you keep your horses healthy.

For more information and to gain access to the rest of the series, please visit our website:

www.healthyhorses.co.uk

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INTERNAL PARASITES

How do they cause damage?

Worms are a normal occurrence in horses and are present in the vast majority of horses at varying levels of infestation. Eggs can be ingested from infected pasture, and develop inside the horse's gut or lungs where they have the potential to cause disease. Eggs produced by the adult worm will then be shed in the faeces increasing the existing worm burden on the pasture and the potential of infecting new horses.

When present in low numbers, worms cause minimal problems. However, when present in moderate or larger numbers, they can severely affect our horses' health and can result in poor body condition, colic and general ill health. More seriously, they can also damage a horse's

intestines and other internal organs, often causing irreversible harm with potentially fatal consequences.

It is very important that horses are treated with the right wormer at the right time of year: this can be achieved through a targeted worming programme.



Types of internal parasites/worms.

The most common species of worms that affect horses include:

- Large Redworms (*Strongyles*)

Large redworms are one of the most dangerous internal parasites. They eat through the lining of the gut wall and travel through the blood vessels of the gut causing significant bleeding and damage. They can cause rapid weight loss, diarrhoea and surgical colic. Severe cases of infection can lead to death.

- Small Redworms (*Cyathostomes*)

Small redworms are the most common internal parasite in horses. The larvae hibernate in cysts within the gut wall during the winter and emerge in large numbers in the spring causing severe damage to the intestines during the process. They can cause weight loss, diarrhoea and colic with potentially fatal consequences particularly at the time of mass emergence.

- Roundworms (*Ascarids*)

Adult roundworms can grow to 50cm in length and are particularly dangerous to foals and young horses (older horses develop immunity). The larvae migrate through the gut wall, to the liver and then the lungs. The larvae are coughed up and swallowed where they mature to egg laying adults within the gut. They can cause respiratory signs (seen as a cough and nasal discharge) as the larvae journey through the lungs, or they can cause gut signs such as weight loss, a poor-doer or pot-bellied appearance and diarrhoea.

- Pinworms (*Oxyuris*)

Pinworms can damage the bowel before laying their eggs around the outside of the anus causing intense itching and irritation. Persistent scratching will result in hair loss and open sores, around the tail head which can become infected.

- Threadworms (*Strongyloides*)

Threadworms often remain dormant in adult horses but transfer to newborn foals via the mare's milk. This leaves the foal weak and susceptible to diarrhoea and anaemia. The foal's growth rate may also be affected. Foals should be wormed against threadworms as early as 4 weeks old and worming the mare during pregnancy will help reduce numbers transferring to the udder. Natural immunity usually develops by 6 months of age.

- Tapeworms (*Cestodes*)

Tapeworms can grow to 8cm in length and a width of 1.5cm. They form into clusters at the junction between the small and large intestines where they can cause digestive disturbances, loss of condition, colic and fatal blockages. Horses become infected when they eat forage or grass contaminated with the infected forage mite.

- Lungworms (*Dictyocaulus arnfieldi*)

Lungworms prevail in pastures shared with donkeys – the lungworm's natural host. These worms cause persistent coughing in horses as respiratory problems develop.

- Bots (*Gastrophilus*)

Bot flies are one of the most common irritants to horses during the summer grazing season. They lay sticky yellow eggs on the horse's coat – these are then ingested as the horse grooms itself by licking. On entering the mouth the eggs hatch out into larvae, which migrate to the stomach.

FAECAL WORM EGG COUNTS (FWEC)

FWECs can be used to assess whether a horse has a worm burden that requires worming treatment, and they can also be used to monitor the effectiveness of a particular treatment.

A faecal worm egg count (FWEC) should be a routine part of the worming program.

What is a faecal worm egg count (FWEC)?

- A sample of your horse or pony's dung is viewed under a microscope to see whether any worm eggs are present in the dung. FWECs are most useful when performed through the grazing season (April to September).

Do they identify all worms?

- They only show up worms that lay eggs inside the horse as part of their lifecycle. This does not include pin worm, bots and tapeworm. In addition, they will not be able to identify immature worms that are not laying eggs and therefore cannot identify the encysted small redworm. There is a test (through blood or saliva) available to identify horses which have been exposed to tapeworms but it can be difficult to interpret.

What does a clear result mean?

- It means that there are no active adult worm eggs in the sample of dung that you have sent for analysis. It does not mean that your horse does not have worms, as pinworms, bots, tapeworms and the immature stages of roundworms do not show up on this test.
- A targeted worming programme will incorporate a treatment for the worms not detected on a FWEC at the appropriate time of year, whilst the FWEC will identify those horses which need worming during the grazing season.

Where do I go to get a FWEC test?

- FWEC tests can be performed by most veterinary practices but also by many commercial laboratories. Most only require a 2-3g sample of dung which should be stored in a sealed container and be as fresh as possible, ideally less than 24 hours old. Make sure the sample contains different areas of the dung and that the sample has been mixed. It is important that you get advice on interpreting the results, so you can identify which horses need worming and which product to use.

Why do I need to do this test?

- Regular and intensive worming treatments have led to the development of resistance to most of the currently available wormers and the rate of development of resistance is directly correlated with frequency of use. It is also well accepted that some horses harbour high worm burdens whilst the majority remain consistently low, known as the 80:20 rule. By using FWECs the high shedding horses can be identified and wormed appropriately, while those with a low burden can be saved a treatment, helping to preserve the wormers we have available. To achieve this, all horses must have this test.



TYPES OF WORMER/ ACTIVE INGREDIENTS

There are three main classes of broad spectrum anthelmintics (wormers). These are:

- **Benzimidazoles:**
eg. fen/me- bendazole

- **Tetrahydropyrimidines:**
eg. pyrantel embonate

- **Macrocyclic lactones:**
eg. Iver/aver-mectins

Praziquantel is a fourth class but is for tapeworm treatment ONLY.

Using the same class of wormer every grazing season will increase the chance of resistance developing. It is therefore important to rotate the type of wormer used after each grazing season.



TARGETED WORMING PROGRAMMES

Tailored programmes ensure you target specific worms with an effective product at the correct time of year whilst using faecal worm egg count testing during the main grazing season (April to September) to identify which horses need a wormer during this period.

During the grazing season one class of product should be used and an alternative product should be used for each subsequent year's grazing season so that the three types of anthelmintic are used on a rolling three-year basis.

If you have a new horse, it is sensible to worm him with a product or combination of products that will kill all types and stages of roundworm (including encysted and inhibited small redworm) and tapeworm. Stable him for 48 hours after worming before turnout to allow the wormer to take effect and prevent viable eggs from being deposited on the pasture.

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	
			THE GRAZING SEASON Select one active ingredient for each grazing season and dose based on worm egg count results.									
	Consider whether treatment for Small Redworm Larvae is required - 5 day course fenbendazole or single treatment of moxidectin		Consider whether Tapeworm treatment is required. - double dose pyrantel embonate or single treatment of praziquantel						Tapeworm treatment is required - double dose pyrantel embonate or single treatment of praziquantel		Consider whether treatment for Small Redworm Larvae is required - 5 day course fenbendazole or single treatment of moxidectin	Consider whether treatment for Bots is required - ivermectin or moxidectin

You should discuss this targeted worming programme with your veterinary surgeon to tailor it to your individual horses risks.

RESISTANCE TO WORMERS

Resistance occurs when a selected wormer no longer effectively controls the worm population, an increasingly common problem to all wormers.

Once resistance has been established in a worm population, the health, welfare and performance of worm infested horses will be compromised because no effective treatment is available.

Resistance may be increased when too low a dosage of a wormer is used for the weight of the horse, or if the wormer is used too frequently. To help reduce the incidence of resistance we should:

- Use FWEC testing to assess which horses require worming treatment
- Avoid over using one particular active ingredient (see page 8)
- Rotate the active ingredient/class of wormer used for each grazing season
- Target specific worms with an effective product at the correct time of year
- Weigh (or weigh tape) your horse(s) before dosing so you can provide the right amount of wormer and avoid under dosing
- Use pasture management techniques to reduce the worm burden on the pasture and help limit the reliance on wormers



TOP TIPS FOR WORM CONTROL

A well-managed pasture will help to reduce the worm burden.

- Remove droppings on a regular basis (preferably daily, but at least twice a week) and don't spread horse manure on pasture
- Don't overstock pastures: a maximum of two horses per hectare or 1-1.5 acres per horse is recommended
- Graze horses of a similar age together – young horses are more susceptible to a higher worm burden and will therefore contribute to a higher worm burden on the pasture
- Sub-divide grazing areas into smaller paddocks and graze on a rotational basis
- Harrow pasture during dry conditions to expose soil-borne larvae so that they dry out and die
- Graze paddocks with other livestock too. This will dilute the horse worm burden on your pasture
- Worm all horses that graze together at the same time, with the same product, if the results of the individual horse's FWEC suggest they need worming. Those horses within the group with a FWEC of less than 200 eggs/g do not require a treatment

EXTERNAL PARASITES: FLIES AND MIDGES

Flies

There are several species of fly, which can prove a torment to horses during spring and summer months. Biting flies can pierce the horse's skin and feed on its blood while nuisance flies lay secretions in and around the horse's eyes, mouth, nose and other sensitive areas. Aside from the threat of an allergic reaction and the annoyance, flies can carry diseases, which they can spread from horse to horse.

Sweet-itch

Sweet-itch is a common allergic skin disease that affects many horses and ponies in the UK and at present there is no cure. Once a horse develops the allergy it will generally be for life and so it is important to take measures to prevent unnecessary suffering.

It is a condition caused by a reaction to the saliva of biting midges during the months from April to early October. It causes horses to rub their manes and tails and surrounding areas, and sometimes their undersides too. The severity of the condition varies from horse to horse; some will only rub occasionally, while others will rub themselves bald, causing open sores.

Treatment revolves around anti-inflammatory therapy which is often unsatisfactory and can have serious side effects if used long term. Preventative measures are therefore crucial to avoid the condition and limit the suffering which can arise from the intense and unrelenting itching.

Midge control

- **Start control before the midge season - do not wait for your horse to start itching**
- **Stable your horse during dawn and dusk when midge activity is greatest**
- **Turn horses out in fields which have lower midge burdens such as breezy pastures, higher ground and away from woodland**
- **Prevent horses from grazing areas that have ponds, lakes or rivers nearby as these naturally attract the troublesome midges**
- **Use an effective fly rug to prevent midge contact with your horse's skin**
- **Use an effective long acting product containing Permethrin and Citronellol that is licensed to both kill and repel flies**



EXTERNAL PARASITES: LICE AND MITES

Lice

Lice are common in horses and are readily passed from one horse to another by physical contact, and can also be spread by the sharing of brushes and equipment from one horse to the next. Sharing equipment is not recommended as nits (louse eggs) can live for a few days on equipment away from the horse, transferring to the next horse when the equipment comes into contact with it.

Lice thrive where they can keep warm and are often found at the roots of the forelock and mane but they can be found anywhere on the body particularly if the coat is thick.

The symptoms of a lice infestation include:

- **A dull, listless coat**
- **Patchy hair loss**
- **Matting of body hairs, mane and tail**
- **Itching and rubbing against posts and stable walls**
- **Chewing and biting their skin**
- **Loss of body condition in more severe cases**
- **Visibility of lice and eggs on the surface of the skin and in the coat**
- **In more severe case, anaemia due to ongoing blood loss**

Lice are relatively simple to control. Rugs, saddle pads, brushes, and other equipment should be treated with very hot water or washed with an insecticide solution. All bedding should be removed from the stable, which should be disinfected and ideally kept horse-free for a number of days. Where one horse in a group has lice, all horses must be treated with a Permethrin based product, whether they show signs of infestation or not, to break the possibility of lice transmitting from one horse to the next and back again.

Feather Mites

These are caused by the mange mite, *Chorioptes equi*. This condition is particularly common in heavy draught breeds and is more prevalent in winter. The mites burrow into the skin of the pastern, fetlock and cannon and cause severe itching, leg-stamping, self-mutilation and heavy scale and scab formation in these areas. The mites can spread from one horse to another so other feathered horses in the same yard may also be infected.

Clipping the feathers can help prevent the condition in some instances and can be helpful if topical treatments are used to alleviate the symptoms. There are no licensed products to treat the condition but your vet will be able to advise you on the best course of action should your horse be demonstrating signs of infestation.



WHAT SHOULD I DO NOW?

Check your horse's worm status and treatment history.

- Accurately record all of your horse's worming activity including when faecal worm egg counts are performed, the results and any products you used including the dose given and the weight of your horse at that time. **Download the worming record card [here](http://www.healthyhorses.co.uk/sites/default/files/prm-_equine_wormer_owner_record_card.pdf)**
- http://www.healthyhorses.co.uk/sites/default/files/prm-_equine_wormer_owner_record_card.pdf
- Discuss a worming protocol with your yard and your vet
- Ensure you have an effective fly repellent to hand and take measures to minimise the exposure your horse has to nuisance flies and midges during the summer months
- Check your horse's skin and coat regularly for signs of disease

Where can I go for further information?

- Your vet
- To find a vet in your area <http://findavet.rcvs.org.uk/find-a-vet/>
- BEVA website - www.beva.org.uk
- BHS worming booklet http://www.bhs.org.uk/~/_media/BHS/Files/PDF%20Documents/Worm%20Control.ashx







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**Further information
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