



KINGS BOUNTY EQUINE PRACTICE

EQUINE WORMING

Parasitic intestinal worms are common and all grazing horses are likely to have some degree of worm burden. Most horses have such a low number that they generally do not cause any harm. Problems arise if worm burdens increase. Severe worm infestations can cause colic, diarrhoea, weight loss and even death (although this is particularly rare). Most disease attributed to worm burdens is seen in young horses (under 5 years of age). After this, most horses will build up an immunity to worms, meaning disease caused by high worm burden levels is rare.

In the past, routine worming (anthelmintic treatment) traditionally comprised administering wormers at frequent intervals throughout the year to kill any worms and prevent disease. However, due to the increased risk of wormer resistance and decreasing levels of worm related disease, advice on anthelmintic treatment has shifted to a TARGETED APPROACH.

Good worming control aims to reduce the overall level of pasture contamination with worm eggs and to keep the worm burden in an individual horse low enough to prevent disease and to stimulate the horses' immunity against further worm infections. A low level of worm burden is considered *normal* in horses.

A good rationale for targeted worming is what is known as the **80:20 rule – 20% of the horses in the herd will carry 80% of the worms. This means that only around 20% of the horses will need worming regularly.**

Performing worm egg counts (WECs) on all horses through the grazing season (March-September) enables us to establish risk and worm burden. The number of eggs detected in your horse's faeces will dictate whether they need worming and if so, what wormer should be used. This can be discussed with your vet. **Remember, a low level of eggs is NORMAL and does not always need treating. A low level should be encouraged to help reduce the incidence of resistance.**

What are we trying to treat?

Please refer to our 'Common Equine Internal Parasites' fact sheet for more information on the various internal parasites that can affect horses. The main two that we are concerned about are: **cyathostomins (small redworms) and tapeworm.**

Redworm (Cyathostomins)

Cyathostomins (small red worms) are one of the worms that the faecal worm egg count detects. Part of the cyathostomins life cycle involves a stage where the larvae bury into the horse's gut wall (encysted larvae). **These larvae cannot be detected on WECs.** The WEC can only give us an idea of the number of adult worms and not how many larvae are in the gut wall. It is the mass emergence of these larvae all at once, typically in the spring or winter that can lead to the **disease cyathostomiasis.** The emergence of the larvae cause significant inflammation of the gut leading to severe diarrhoea which can potentially be life threatening. Fortunately, this condition is not common and when seen, is usually seen in youngsters (1-3 years) with high worm burdens that have not been treated.

Vets have traditionally recommended that all horses receive an autumn wormer that is larvicidal, meaning it gets rid of any encysted larvae in the gut call. However, new research and guidelines suggest this approach results in the overuse or unnecessary use of moxidectin. Moxidectin (in Equest and Equest Pramox) is currently the only larvicidal wormer as widespread resistance has developed to fenbendazole, which used to be an effective larvicidal wormer.

Tapeworm

Less than 50% of adult horses in the UK are infected with tapeworm and most will be at a level not causing any detrimental effect on the horse. Tapeworm infection has been linked to certain types of colic, which is why a vet may have recommended treatment more than once a year in some horses.

WECs CANNOT detect tapeworm burdens because tapeworm eggs are shed in segments. There is a blood test and a saliva test available to detect antibodies in the horse for tapeworms. Both of these tests have been well studied and validated to show that high antibodies correlate well to the number of tapeworms in the horse. **The optimum time for a tapeworm treatment is September to December as tapeworm burdens generally accumulate over the grazing season.** The tapeworm only has one parasite generation per year so once a year treatment should be sufficient in most horses.

Praziquantel is preferred to double dose pyrantel, as it is tapeworm specific and pyrantel exposes other worms to treatment which may then contribute to anthelmintic resistance.

Wormer Resistance – Why it is a problem

- Resistance is seen when a high proportion of parasites within a horse are no longer killed by the drug, rendering it ineffective.
- If you *worm too frequently*, pressure is put on the worm population for genetic selection. This means that those that are not killed by the drug, will survive and produce more offspring that are also resistant to the wormer.
- There are different classes of wormer and repeated use of the same class of wormer puts the same selection pressure on the worm population, increasing the risk of resistance.
- It is important to make sure you worm your horse with the *correct dose for their weight!* Under-dosing can potentially allow more resistant worms to survive.
- Resistance cannot be reversed once it has developed. *There are currently no new wormers available and therefore we must do everything we can to protect and preserve the ones we have available to reduce the risk of an increase in worm related disease in the future.*
- The health, welfare and performance of horses infected with resistance worms may be compromised.
- Resistance can be investigated by performing *faecal egg count reduction tests*. If you have any concerns regarding wormer resistance on your premises then please contact the practice to speak to one of the vets directly.

Targeted Worming Strategy – What we advise

We want to help you worm your horse to keep them free of any parasitic disease in a responsible way.

All of the information has been produced following the latest information from a veterinary consensus guide on best practice for equine de-worming. **This plan is suitable for adult horses greater than 5 years of age. Horses younger than this may require more frequent worming and this should be discussed with your vet.**

Foals should be strategically wormed in the first year of life at set intervals from 2-3 months of age, according to risk. Your vet will be able to advise on this.

The aim is to reduce anthelmintic treatment as much as possible to reduce the risk of increasing wormer resistance. This is done through good pasture management and frequent testing (WECs and tapeworm antibody tests) to determine whether your horse needs to be treated.

Management tips to help reduce the need for anthelmintic treatment:

Prevention of significant infestation should be the primary aim of any control strategy. This involves reducing pasture contamination with eggs. Management tips include:

1. **Picking up droppings regularly and frequently.** This should be done at least twice a week but preferably every couple of days. This will reduce the worm burden more effectively than any other treatment.
2. **Avoid spreading horse manure on pasture grazed by horses e.g. harrowing**
3. **Avoid overstocking and overgrazing.** Ensure paddocks are rested, ideally in the hot, dry weather.
4. **Avoid moving horses to clean pasture within 2 weeks of worming.** It used to be recommended that we 'dosed and moved' but this is misguided as it results in all of the resistant parasites moving with the horses and all of the non-resistant ones being left behind.
5. **Muck out stables regularly,** especially when they contain foals and weanlings.
6. **Muck heaps should be kept separated from grazing areas** – worms can migrate many metres across pasture.
7. **Prevent the development of rough areas** where horses regularly defecate as this can serve as a reservoir of worms.
8. **Cross-graze with sheep or cattle** wherever possible to clean up any deposited eggs and larvae.
9. When introducing **new horses to a yard** – the advice is to **deworm them with praziquantel and moxidectin at the new yard and quarantine them for 3 days after de-worming.** During this time faeces should be collected and not spread onto paddocks.



KINGS BOUNTY EQUINE PRACTICE

Performing WECs and assessing the risk factors for parasitic infection for your horse/ pony:

As discussed above, **WECs should be performed throughout the grazing season. Three WECs spaced out evenly between March and September is considered appropriate for adult horses.** These will allow us to assess your horse's individual risk over the grazing season, determine whether they need de-worming during this time and help dictate whether or not a larvicidal treatment for cyathostomins is required in the autumn.

Tapeworm: Antibody testing should ideally be performed once or twice a year. The blood test is preferred over the saliva test as taking the saliva swab correctly to allow accurate results can be difficult.

The following table taken from the latest consensus statement demonstrates risk factors for parasitic infection and helps classify animals as low, medium or high risk in determining the required frequency of diagnostic testing and appropriate treatment:

Risk level	Low risk	Moderate risk	High risk
Previous WEC Results and tapeworm tests	Always below <50epg and low tapeworm antibody levels	Usually below <200 epg Low to moderate antibody levels	Recent results >200 epg High tapeworm antibody levels
Environmental conditions	<ul style="list-style-type: none">- 5-15 old years- Closed herd/stable population- All herd <200 epg and negative tapeworm antibody levels- Good pasture management- Effective quarantine- No youngstock- Low stocking density- Frequent poo picking > twice per week- No history of parasitic disease- No history of colic	<ul style="list-style-type: none">- >15 years- Occasional movement- Low proportion of herd >200 epg and tapeworm antibody levels- Moderate pasture management- Medium stocking density- Sporadic poo picking	<ul style="list-style-type: none">- <5 years- High herd turn over/transient population- High proportion of herd >200ep and high tapeworm antibody levels- Poor pasture management- No quarantine- Grazing of youngstock- High stocking density- No poo picking- Anthelmintic resistance identified- History of parasitic disease- History of colic

If you have any queries or concerns please contact us at Kings Bounty Equine Practice. The vets can help formulate a risk assessment, which they can then use to help you develop an effective worming programme specific to your yard and horses, as good advice for one situation will not necessarily work for another.



Redworm Testing

There is a new small red worm or cyathostomin blood test on the market, that like the tapeworm test, is an antibody test. The use of this has been considered but having studied the research, we have some concerns with the test currently.

The test measures the antibodies the horse has to small red worms but importantly to both the adult small red worms and the encysted larvae, not just the encysted larvae which would be more useful. Faecal worm egg counts already allow us to know about the adult red worm burden.

The manufactures of the test have chosen a cut off (a number of adult worms and larvae) that they consider a problem but there is no research to justify this cut off causes a problem for the horse. Furthermore, as the test detects antibodies, it only shows that the horse has been infected but this does not necessarily mean the horse is currently infected. This is a problem with the tapeworm blood test too, however, this has been studied and we know the tapeworm antibodies can remain high for up to 5 months after treatment. How long antibodies remain for small red worms following infection is not yet known, the manufactures of the test are aware of this problem and don't recommend its use within 4 months of treatment with moxidectin.

There may be a place for this test and the manufacturers are working to improve it. If you would still like to have this test done on your horse please discuss with one of our vets, who will help you interpret the results based on your horse's history.