

Protect your horse from parasites and help prevent wormer resistance

Internal parasites present a constant challenge for horses, requiring ongoing monitoring and careful management to maintain optimum horse health. Incorrect management can lead to unchecked worm burdens, development of resistance to wormers and, in worst cases, ill health and death.

There's a constant, silent battle going on inside your horse's intestine. Parasitic worms have become adapted to live inside certain areas of the gut by feeding on nutrients before the horse is able to absorb them. The horse's immune system does its best to fight them off but it is often fighting a losing battle; worms have become so cleverly adapted, that they can remain unaffected. So it falls to the conscientious horse owner to use correct worm control strategies, including testing for worm burdens, administering wormers when needed and managing pasture to prevent re-infection or the transfer of worm infection from one horse to another.

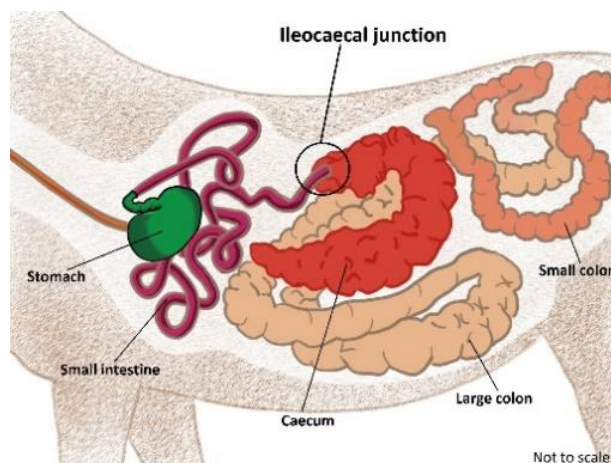
What is resistance?

Worms can develop the ability to survive the killing effect of wormers, usually through repeated exposure to worming drugs. The risk of resistance emerging is increased by practices such as routine

increasingly important to avoid routinely worming horses and to reserve the use of drugs for when they are really needed – when a horse has a confirmed burden.

Horse worms

The most common worms to infect horses in the UK are small redworm (cyathostomins), roundworm (ascarids) and tapeworm (cestodes). Three species of tapeworm are capable of infecting horses; the most common in the UK is *Anoplocephala perfoliata*. It can grow up to 8 cm long and is made up of a series of segments. The head has four suckers which the tapeworm uses to attach itself to the caecum and to a small region of the intestines called the ileocaecal junction. This localised attachment causes damage to the intestines and the presence of large numbers of tapeworms cause intestinal obstruction and clinical disease, resulting in colic.



Diagnosing worm burdens in horses

Most of the time it is not possible to determine whether a horse is carrying a burden by visual assessment, at least not until a clinical problem exists. By this stage the horse may suffer symptoms such as colic, diarrhoea and weight loss. It is therefore important to monitor horses by routinely testing before considering treatment. Worm egg counts (WEC), where worm eggs are counted in a dung sample, should be carried out at least 3 times a year to monitor for small redworm and roundworm (note: until a diagnostic test exists to detect small redworm encysted in the gut wall, a routine winter worming dose should be administered). WEC are unreliable for detecting tapeworm burdens as eggs are released intermittently and are not uniformly spread throughout the dung. Tapeworm burdens are more accurately diagnosed by either a blood or a saliva test, both of which detect tapeworm-specific antibodies. In the past, the accepted method to control tapeworms was to treat all horses every 6 months, regardless of whether they needed treating but, since the availability of accurate tests, this practice is no longer necessary or recommended.

The EquiSal Tapeworm saliva test

The EquiSal saliva test is carried out using the specially designed swab provided in the kit to collect saliva. The sample is sent back to the laboratory for testing in a tube containing preservative solution. It is easy to integrate EquiSal Tapeworm testing into

your worm control programme – simply test every 6 months at a time when you would consider routine worming for tapeworm.

The test provides a low, borderline or moderate/high diagnosis and worming is recommended for horses diagnosed as borderline or moderate/high. Diagnostic accuracy has been proven through full validation of the test which has been published in the peer reviewed journal, *Veterinary Clinical Pathology*.

Season	EquiSal Tapeworm testing	Worm egg counts (redworm and roundworm)	Encysted redworm treatment
Spring	✓	✓	
Summer		✓	
Autumn	✓	✓	
Winter			✓

Testing before treating significantly reduces wormer doses

Routinely testing for tapeworm and only treating horses diagnosed with a burden significantly reduces the doses of wormer being administered to horses as approximately 75% of horses in the UK are diagnosed with a low burden and do not require treatment.

Certain horses are less prone to tapeworm burdens and graze alongside those with burdens without easily becoming infected. This is similar for other worm species where 80% of all worms are said to be present in 20% of horses. It is also interesting to note that horses with tapeworm burdens aren't necessarily the same horses with a tendency to have high WEC results.



The importance of routine testing

Routinely monitoring your horse for tapeworm burdens is important as, with other worm species, infection is dynamic and can be influenced by factors outside of your control. This was highlighted recently by results obtained in one of EquiSal's research studies.

Ama and Charlie graze separately, in a regularly muck cleared field, surrounded by gardens and agricultural land with a bridleway running down one side. Both horses had been diagnosed with low burdens for 2 years, so it was quite a surprise when Ama's test results diagnosed her with a moderate/high burden. However, the adjacent bridleway was found to have horse dung left by passing horses and this was enough to infect Ama, who grazes closest to the bridleway. This can be explained when considering the tapeworm life cycle, in which oribatid mites are intermediate hosts (see life cycle section). Oribatid mites living on the pasture would have ingested

tapeworm eggs from the dung on the bridleway before moving to the paddock and been inadvertently eaten by Ama. Ama's results subsequently reduced to low burden diagnosis after worming. You can read more about this study at www.equisal.co.uk.

Case study: testing small herds

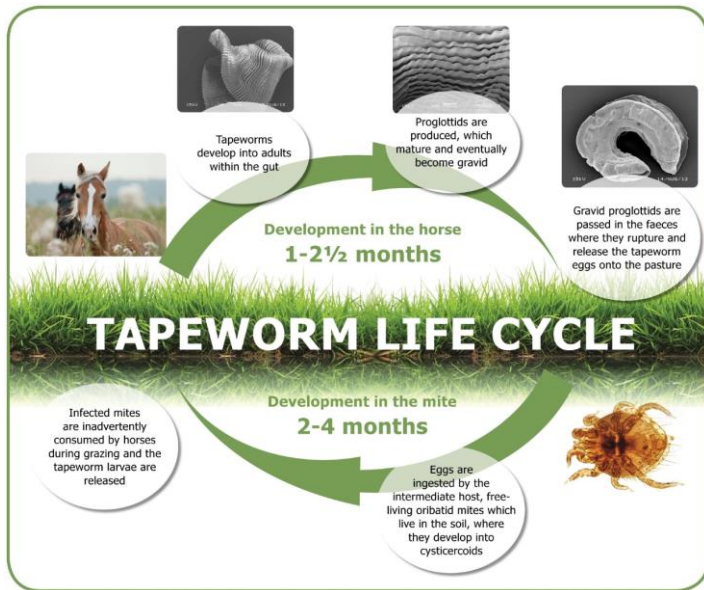
Endurance rider Karen Corr's four horses were tested for tapeworm using the EquiSal Tapeworm kit. One horse, Zee, was found to have a moderate/high tapeworm burden and the three other horses were low and did not need treatment. Six months later, all of Karen's horses, including Zee, were diagnosed with a low tapeworm burden, so no treatment was needed. Karen's experiences with EquiSal Tapeworm tells us that targeted tapeworm control has been effective on her yard. Using this approach, only one dose of tapeworm wormer has been necessary for one horse this year, and Karen has been able to only use wormers when they are needed. Avoiding 'blanket' use of wormers is an important factor in reducing the risk of resistance emerging. "I'm convinced EquiSal testing should be an important part of our worm control regime," says Karen.

Case study: testing large herds

In 2016, Bransby Horses, who use saliva testing for horses in their care as part of their worm control strategy, tested in Spring and Autumn as well as testing horses new to the premises. Only 22% of the 749 test results were borderline or moderate/high and required treatment. This resulted in a big reduction in wormer administered to the horses – 583 doses to be exact!

The Tapeworm Life Cycle

The tapeworm life cycle is different from other horse worms as it requires an intermediate host. Infected horses pass tapeworm eggs onto the pasture where they are consumed by free-living oribatid mites. The eggs develop into larvae within the mite until the mite is ingested by a grazing horse, allowing the larvae to be released into the intestines. The larvae complete their life cycle by attaching to the lining of the caecum or ileocaecal junction, where they develop into adult tapeworms capable of releasing eggs.



Oribatid mites live within the grass and soil of our pastures, but the number of infected mites depends on the level of infected horses grazing the paddocks. If there are a lot of infected horses in a paddock, then a higher proportion of the oribatid mites are likely to be infected. It is essential to manage tapeworm burdens in horses and this also minimises the number of infected mites present.

Reducing the risk of tapeworm infections

Although it can be difficult to influence management practices outside of your own field to prevent infection, it is best practice for horses in adjacent paddocks to be following the same worm control programme.

It is important to carry out routine paddock management, such as regular muck clearance, where muck is completely removed from grazing and adjacent areas, as well as field rotation and resting where possible. It is also important to restrict horses' grazing while away from home, such as at show grounds. Lastly, ensure you know your horse's accurate weight for correctly dosing wormers as under dosing can result in persistent burdens and continuous egg shedding.

To find out more information about tapeworm burdens in horses, testing and control measures, visit www.equisal.co.uk or email enquiries@equisal.com.

