How to test with EquiSal Tapeworm

Initial testing

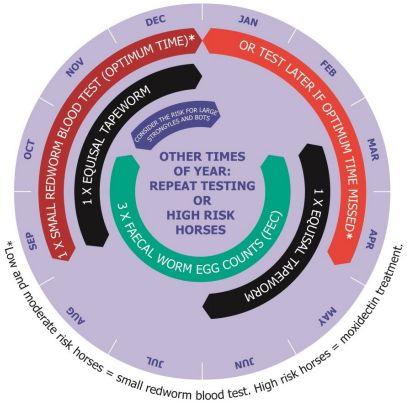
We recommend that a horse has not been dewormed for 4 months before testing with the EquiSal Tapeworm Test.

Frequency of testing

We recommend that you test your horse twice a year for tapeworm.

The best time to test is during spring and autumn/early winter, as these are considered to be the ideal times of year to deworm for tapeworm. Only deworm your horse if testing recommends that treatment is required.

Include EquiSal Tapeworm testing every 6 months alongside regular faecal worm egg counts (FEC) for redworm and roundworm. Test for small redworm (including encysted stages) in Autumn/Winter.



Retesting after a borderline or moderate/high diagnosis

If a horse has had a previous borderline or moderate/high diagnosis, a retest can be carried out 2 -3 months after deworming treatment for tapeworm. Our data shows that, in most cases, reduction in tapeworm-specific antibodies was seen within weeks following treatment.

How long after deworming are tapeworm-specific antibodies present in saliva?

Austin Davis Biologics carried out a pilot trial in which EquiSal Tapeworm testing was carried out on horses (with access to grazing) every two weeks following deworming treatment for tapeworm. Data collected from this trial showed that, in most horses kept in well-managed paddocks, reduction in tapeworm-specific antibodies was seen within two to three weeks following treatment. 73% of horses had Saliva Scores which dropped to low within five weeks of deworming for tapeworm. The remaining horses took a further six weeks to drop to low. This suggests that antibodies present in saliva have less memory of tapeworm infection than antibodies in blood.

It is important to understand that the situation is complicated if the horse becomes reinfected by tapeworm larvae after deworming treatment. Tapeworm reinfection has been seen in horses kept in poorly managed paddocks where reinfection can obviously happen very easily. But, given that the tapeworm's life cycle requires an intermediate host (an oribatid mite), even well managed paddocks containing horses with high tapeworm burdens could harbour infected oribatid mites within the grass. This means that there is still a reinfection risk after worming for horses grazing in these circumstances too.

In summary, it is important to carry out regular testing to ensure that deworming strategies are effective and current data from EquiSal testing suggests that regular testing has an important part to play in monitoring effective worm control

Vetlab Supplies
Specialists in Veterinary Laboratory Supplies

SUPPLIED BY VETLAB SUPPLIES

Www.vetlabsupplies.co.uk

The EquiSal Test

The EquiSal Tapeworm Test (patent granted) is a simple-to-use horse saliva test for detecting harmful tapeworm infections in horses. It was developed by family business, Austin Davis Biologics Ltd, who now provide a testing service to diagnose tapeworm burdens and recommend treatment. The EquiSal Tapeworm Test works like a blood test but, instead, uses saliva that horse owners are able to collect themselves using a specially designed saliva collection swab. The saliva swab is posted back to the laboratory in a preservative solution which keeps the sample stable for at least three weeks.

During 2012 and 2013 the research team, consisting of three experienced scientists (one of whom was an inventor of the Clear Blue pregnancy test), developed and rigorously validated this innovative test before launching the diagnostic service during April 2014.

The test measures tapeworm-specific antibodies in saliva, using a combination of three laboratory tests (called ELISAs*). Each sample is analysed under very carefully defined conditions to account for variations in saliva flow and impact of diet. The saliva samples are handled by an automated liquid handing system to ensure very high accuracy, as well as high-fidelity sample tracking throughout the test procedure. An algorithm is applied to integrate data from the three different tests to generate an EquiSal diagnosis of tapeworm burden – the saliva score.

The table below shows the results provided by the EquiSal Tapeworm test service. The test identifies horses with low burdens, borderline results or moderate/high burdens and treatment is recommended as detailed.

EquiSal Tapeworm Saliva Score	Tapeworm diagnosis	Tapeworm treatment recommended
< -0.09	Low	No
-0.09 – 0.6	Borderline	Yes
> 0.6	Moderate/High	Yes

* An average moderate/high saliva score is approximately 16, but very high scores can reach into the hundreds. Regardless of the saliva score, any horse with a borderline or moderate/high result should be treated.

EquiSal Tapeworm Test accuracy

The EquiSal Tapeworm Test was validated by testing saliva samples taken from horses in which the number of tapeworms present had been counted at post-mortem. In scientific terms, the EquiSal Tapeworm Test has both high sensitivity and specificity, which is important for correctly identifying horses with tapeworm burdens.

The majority of horses with one or more tapeworms at post-mortem were correctly identified by the test. The remaining few were diagnosed as being negative but these horses had burdens considered by experts to be not pathogenic (pathogenic meaning capable of producing disease), amounting to no more than 20 tapeworms. This is similar to the current guidelines for redworm faecal egg counts (FEC), where a result of less than 200 eggs/gram is not recommended for treatment.

This means that the EquiSal Tapeworm Test can be relied upon to:

- correctly identify the majority of horses with a moderate/high burden
- correctly identify all horses with pathogenic burdens

When data from a tapeworm blood test and the EquiSal Tapeworm test were compared, they were shown to have strong positive correlation with each other. When these tests didn't give the same diagnosis, it was when non-pathogenic burdens were present (less than 20 tapeworms). The tapeworm blood test and EquiSal Tapeworm test were found to have the same level of accuracy at diagnosing tapeworm burdens.

Vetlab Supplies
Specialists in Veterinary Laboratory Supplies

SUPPLIED BY VETLAB SUPPLIES

Www.vetlabsupplies.co.uk