Equine Parasite Control

Introduction

The ABRS+ recommend that owners of horses and ponies implement a regular test-based programme to test or treat for common worms, with treatment given on an individual basis and if the tests indicate this is necessary. Strategic worming doses can then be added in for encysted redworm and other parasites such as bots and pinworm as appropriate. This is shown at Figure 1.

Figure 1 - Equine Parasite Control

Why Use a Test-Based Programme – Dewormer Resistance

Drug Resistance develops when worms survive a dewormer treatment that was previously effective. Resistance arises through changes (mutations) in worm's DNA. These mutations cause an alteration in worm proteins that are the target of the dewormer or that help worms withstand the presence of the dewormer. The mutations are passed from one worm generation to the next,

so with repeated treatments with the same dewormer, the proportion of worms that contain the mutations increases. Figure 2 shows how resistance develops.

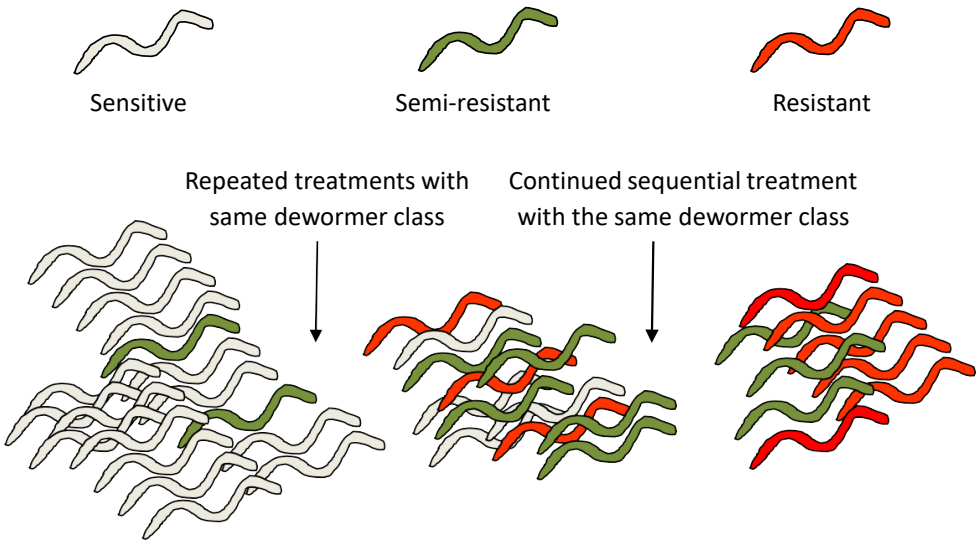

Figure 2 - How Resistance is Created

The most serious consequence of resistance is complete treatment failure, meaning that a particular dewormer is no longer effective. This can result in a persistent infection and clinical disease if a high worm burden develops. Resistance to the dewormer drugs commonly used has occurred (to a lesser or greater extent dependent on the drug and the worm species). Where it has occurred, this resistance is irreversible.

Sustainable Worm Control

The main objective of worm control is to limit the levels of infection so that horses and ponies remain healthy and clinical disease does not develop. It is important to target:

- Worm contamination on pasture by removing egg-containing dung and/or dewormer-treated animals that are shedding high numbers of eggs
- Immature and adult worms inside the horse or pony by applying strategic treatments

This is shown at Figure 3.

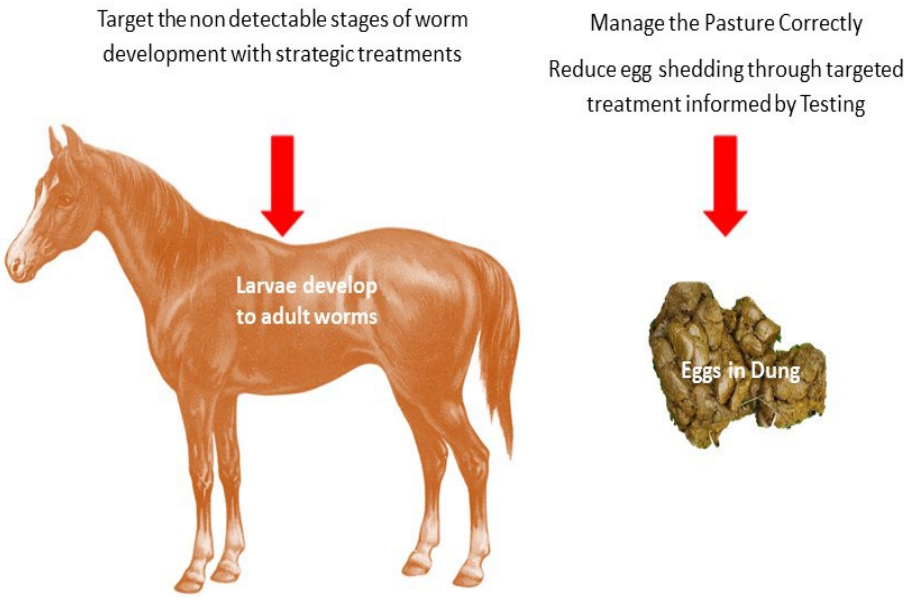

Figure 3 - Sustainable Work Control Programme

Worm Testing - What and When

Using a test-based programme ensures that worming is undertaken where the tests indicate infection above a certain level. Complete the year by treating for possible encysted redworm in winter. Foals, youngsters, neglected or older horses will require more attention.

- **Faecal Egg Worm Count (FEWC)**. A FEWC should be undertaken 3 times per year during the period from Spring to Autumn. This will detect the presence of egg-laying adult redworm and roundworm. FWEC is not necessary during the winter months as the adults are less likely to be producing eggs and the FWEC cannot detect the presence of the encysted redworm larvae.
- **Small Redworm Blood Test.** A Small Redworm Blood Test can be undertaken by your vet in late Autumn, which will identify burdens of small redworm, included those at the encysted stage in their life cycle.
- **Tapeworm Saliva or Blood Test:**
  - **EquiSal Tapeworm Saliva Tes**t, which can be purchased from reputable laboratories. The saliva test can be performed by the horse owner. A swab is taken from the inside of the horse's mouth (instructions on how to do so are included with the kit) which is then sent to the laboratory by post. Typically, results are released within a few working days of the laboratory receiving the swab.
  - **Blood Test**, where blood is taken by a vet for testing.

A guide to what test should be undertaken when is at Figure 4; if in doubt, consult your vet.

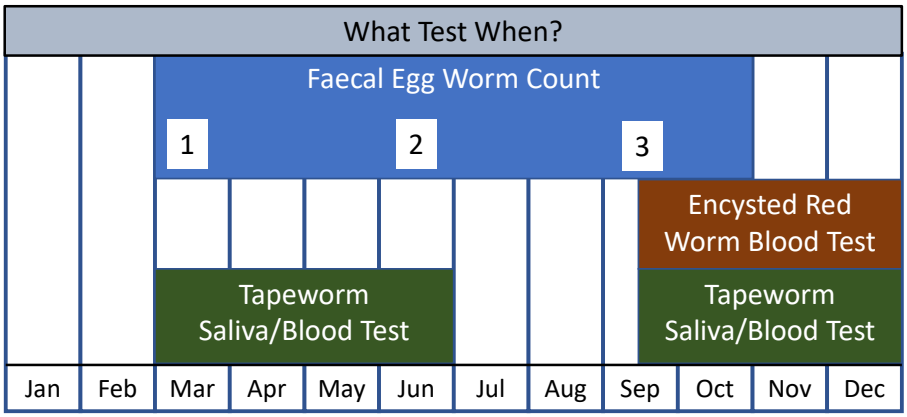

Figure 4 - What Test to Apply When

Putting Targeted, Tested-Based Deworming Programme into Practice

The DOs and **DON'Ts** of Worm Control:

- DO seek advice from your vet who can perform an informed risk assessment of likely worm infection levels and recommend the right dewormer to use. This is particularly important for young (1 to 2 years) horses and ponies or for foals, whose parasite loading and reaction to treatment is different to that of adult horses and ponies.
- DO use weight tapes or, preferably, weigh scales to determine body weight to ensure appropriate dosing. Under-dosing is a cause of dewormer resistance

- DO ensure that the full dose is swallowed. Under-dosing is a cause of dewormer resistance
- DO store dewormers according to the information on the packaging. Old or inappropriately stored products may not be effective and can be a cause of dewormer resistance
- DO ensure that all horses and ponies are on the same deworming programme
- DO use dung removal as a method of environmental worm control – see Pasture Management below
- DO quarantine all new horses. Administer a vet-recommended wormer, withhold from pasture for 72 hours, and perform a FEWC test 10 to 14 days after treatment to check that the product has been effective in reducing egg shedding
- DO NOT dose and then move to clean pasture – this can be a cause of dewormer resistance
- DO NOT use wormer products that are not specifically approved for use on equines – they may be toxic or be effective. Dosing with inappropriate products can be a cause of dewormer resistance

How does Pasture Management help with Worm Control?

Effective pasture management can reduce the risk of worm infection by breaking the worm's life cycles and reduce pasture contamination. It is recommended that:

- Horses and ponies are kept with the same grazing companions for herd stability
- New horses and ponies are kept separate until treated and tested (see above)
- Horses and ponies are not wormed and moved; after worming, ensure horses and ponies stay on the same pasture for a few days; this slows the development of resistance
- Droppings are picked up at least twice weekly, particularly during warm weather
- Pasture is not harrowed to spread droppings, as this just spreads the worm eggs and larvae across the entire pasture. If harrowing is practiced, pasture should be rested until considered safe; this depends on weather conditions. In the UK, it is suggested that harrowed pastures are not to be grazed in the same season
- Pastures are rested for long enough to allow significant reductions in contaminating larvae. Redworm larvae survive a few weeks in hot weather, but 6-9 months in cooler weather. Thus, season and local weather conditions must be considered when calculating how long pastures should be rested for before deemed 'safe'
- The muck heap is located away from areas where horses or ponies graze
- Cross-grazing with cattle or sheep is encouraged where possible. Cattle and sheep will consume the worm larvae, reducing the number that are ingested by and can infect horses
- Pasture is not overstocked or overgrazed. Where possible, allow 0.4 to 0.6 hectares (1 to 1.5 acres) of grazing per horse. If overstocking is unavoidable or intended (for example, to aid in weight management), droppings must be picked up more frequently than twice weekly

How to Implement a Parasite Control Programme on your Yard

We recommend that you:

- Holding a yard meeting when starting a new parasite control programme and/or brief new arrivals if you have an ongoing programme. This will allow you to explain how your programme works and answer any queries that might arise.
- Livery contracts include a clause that requires horse and ponies owner to comply with the Yard's parasite control programme as a condition of the livery.
- Use this guide to explain:
    - Why targeted worm control is used
    - Which worms will be targeted and when
    - What the programme looks like for the year
    - How collecting the samples will work
    - What is expected in pasture management and muck disposal
- Test and treat for parasites as described in the paragraphs above
- Keep an eye out for pinworm and use the 'sellotape test' on horses and ponies if you suspect there is an infection.

Co-ordinate any treatment needed across the Yard and ensure each horse or pony is given sufficient wormer for its weight. Co-ordinating treatment can be a challenge if owners are using/consulting different vets but you must be clearer with clients on what is needed and required. Clients should respect yard policy and recognise that it's a yard owner's responsibility to look after the welfare of the animals in the yard.

The Veterinary Medicines Directorate have ruled that the yard owner has a legal right to purchase wormers for the animals in their charge, with the agreement of the horse owner, and to pass on the costs as part of the livery fee (but you cannot buy wormers and re-sell them to a third party).

Taking a FWEC

- Choose a day to collect samples when worming is due.
- Fill out the control sheet with the horse's names to be tested.
- Give out labelled pots for each horse and number them correlating to the control sheet.
- Take all the samples on the same day, those from overnight stabling are fine. Pick up about five small pinches from different places of a fresh (<12 hours old) dung pile and press the dung into the sample container, filling it to the top to exclude air.
- Pop in the prepaid envelope and post. Keeping refrigerated (~4°C) until taken for posting
- Horses that have a FEWC of below 200 eggs per gram will not normally require treatment for Redworm

Taking a Saliva Test

- Collect saliva samples when worming is due, horses must not have eaten for 30 mins before sampling
- Fill out the barcode labels with each horse's name and stick to the test tube
- Pop all the samples in the prepaid envelope and return to the lab by post
- Samples results take about a week to come back
- Results will indicate which horses need treatment for tapeworm

Other Documents

Please also see the following documents:

- ABRS+ Tapeworm Fact Sheet
- ABRS+ Redworm Fact Sheet
- ABRS+ Horse Health and Biosecurity Plan