SPOTLIGHT • Parasites

WORMING PROGRAMMES FOR ADULT HORSES TO COMBAT ARTHREALMINTIC resistance (AR) in cyathostomins is an increasing concern in equine practice and cyathostom-ins related disease is common. Few questions about the control of cyathostomins are considered adequately. As a profession we are best placed to help horse owners in developing effective strategies of targeted anthelmintic regimes. First, the development of faecal egg counts (FECs) and faecal egg count reduction tests (FECRTs) can help to establish the cost effectiveness of anthelmintics and inform the best choice of medication. In the UK, targeted anthelmintic programmes are most often utilised with the recognised faecal egg count (FC) threshold of 400 eggs/g of faeces (400 FC/g) for the management of strongyle eggs and reduce the cost of worm control.

Targeted worm control

In adult horses, anthelmintics are used for the control of cyathostomins, large strongyles and cestodes (tapeworms) and should always be targeted and optimised to provide the best results. The presence of oxyurids may be diagnosed by performing a "sticky tape test" in which sticky tape is applied around the anus and examined under a microscope for the presence of Oxyuris equi eggs. However, the test is not always reliable and a diagnosis of Oxyuris equi infection is often made on the basis of pruritus and self-trauma of the perineal region. In stable populations of horses, where management is good and where levels of exposure to parasites have been demonstrated to be low for a number of years, it may be possible to rely on a purely targeted strategy of cyathostomin control. However, in situations where the level of exposure is higher to predict, that is, where there are movements and on the premises, young stock are present, pasture management is suboptimal or ownership is mixed, a compromise approach may be more appropriate. In addition to targeted treatment for cyathostomins, one or two strategic treatments are often incorporated into a targeted programme to guard against breakthroughs in cyathostomin control, to treat large strongyles and tapeworms, which can be managed reliably in a targeted manner.

As the level of exposure to parasites increases targeted programmes of worm control reduce pasture pressure and minimise the risk of re-emergence of 5 vulgaris. Targeted programmes of worm control increase the selection pressure for resistance. However, in association with targeted worm programmes, removal of faeces will enable a reduction in the need for anthelmintic administration and reduce selection pressure. Feces and move strategies used are recommended to reduce exposure to parasites, but an unintended consequence is movement of resistant parasites while susceptible parasites are left behind. In effect, the number of parasites in refugia is reduced and selection pressure is dramatically accelerated. Rotating pasture and movement of horses to clean grazing is important in reducing exposure, but movement should not take place in association with or within a couple of weeks of the administration of anthelmintics. By contrast, when horses are introduced to new premises it is prudent to administer moxidectin and praziquantel before moving them on to new pasture in an attempt to prevent the introduction of resistant parasites to other classes of anthelmintics. Praziquantel will remove any tapeworms. After treatment, horses should be kept stabled for 48 hours to allow the parasites to emerge.
eggs already present in the intestine to be excoriated and the resultant faeces should not be spread on pasture.

**Turning theory into practice**

There is no single deworming programme that will be applicable to all properties, given differences in property management, herd dynamics, individual animal characteristics, pasture management and anthelmintic sensitivity patterns. However, in the absence of any data, there are no young stock a similar framework will be applicable to the vast majority of properties.

If a purely targeted approach is considered appropriate, FECs are performed throughout the grazing season and exposure to tapeworms is assessed either by BILFA or faecal sedimentation methods (both have their limitations). Treatments are administered only if the FEC is high or if there is evidence of tapeworm infection. Studies have shown that a threshold of 500 eggs per gram (epg) may correspond to significantly high FECs, with all horses above the threshold having over 5000 eggs per gram (epg) if the FEC is high or if there is evidence of tapeworm infection. Given differences in property demographics, host demographics, climate and pasture management, herd dynamics, veterinary advice is appropriate for all properties, with targeted treatments being recommended.

**References**