XLVETS GUIDE

Effective Worm Control in Horses

The days of blanket interval worming with anthelmintics as the sole method of worm control in horses are over. Wormer resistance is an increasing problem, one which we ignore or dismiss at our peril.

Introduction

We need to break their reliance on anthelmintics (wormers) as the treatment of choice for worm control. This will require a substantial change of mind set amongst the horse owning population.

We need to learn to deal more with acceptable levels of worm burden rather than trying to achieve parasite free horses. There is some good evidence of the potential beneficial effects of a low level of parasite burden.

Research and development in wormers is limited and new classes of anthelmintics are not being developed *en masse* so we need to look after the chemicals we currently have available.

Unfortunately, there is no quick, simple solution to worm control and no "one size fits all" solution, this means that well educated veterinary advice is crucial in ensuring horse owners adopt the most suitable control measures for their horses.

Our modern control of parasitic burdens in the horse should encompass three main areas;

1. Effective pasture management
2. Identifying and monitoring horses with significant parasite burdens
3. Utilizing our available chemical treatments in the most effective manner

Reference table of wormer medications

Chemical Family	Active ingredient/s	Wormer name
Benzimidazole	Fenbendazole	Panacur, Panacur Equine Guard
Benzimidazole	Mebendazole	Telmin
Macrocyclic lactones	Ivermectin	Eqvalan, Vectin, Eraquell, Animec, Noromectin, Bimectin, Maximectin
Macrocyclic lactones	Moxidectin	Equest
Pyrimidine	Pyrantel	Strongid P, Pyratape P, Exodus, Embotape
Quinolone derivative	Praziquantel	Equitape
Combination	Ivermectin and Praziquantel	Eqvalan duo, Equimax
Combination	Moxidectin and Praziquantel	Equest Pramox

Modern Control of Parasitic burdens in the Horse

1. Effective Pasture Management

Removal of droppings from the pasture at least once a fortnight will be effective in minimising pasture contamination with infective worm larvae.

Droppings must be removed completely and only after storage for 6 months in an effective muck heap where the high temperatures will kill the eggs can the droppings be considered safe to spread on the pasture.

Adequate grazing densities will promote the natural formation of grazed 'lawns' and un-grazed 'roughs' where most horses will choose to pass droppings.

2. Identifying and Monitoring horses with significant Parasite burdens

a. Worm egg counts

Faecal worm egg counts (WEC) form the basis of both identifying those horses with significant intestinal parasite burdens and monitoring them. WECs also play a role in monitoring the effectiveness of the anthelmintics and identifying resistance.

WEC results need to establish, more importantly than a specific numerical value those horses with significant intestinal parasite burdens as a separate population from those with no or acceptable levels of burden. What represents an acceptable burden may change throughout a horse's life e.g. a higher burden is tolerated in horses aged 5-20 years old.

WECs should be first performed in the spring (March - May). A fresh dropping sample should be collected in an airtight container or bag and kept cool and delivered the same day to your veterinary practice.

Horses with persistent low or zero WECs can have the interval between testing increased.

Horses with high or significant WECs should be treated and re-tested in 2 - 3 months time. If they are high again, then interval worming should be used.

Horses with very high burdens (more than 1000eggs per gram) despite recommended wormer use should be retested following worming to check for resistance to the wormer used - this is called an egg count reduction test.

b. Monitoring for Tapeworm

Traditional faecal WECs are not a reliable method for identifying tapeworm burden in the horse. There is, however, an ELISA assay performed on a blood sample for anti-tapeworm antibodies which will identify horses with a significant intestinal tapeworm burdens.

The modern approach to the use of this test as a monitoring tool involves testing horses once in the spring and depending on results:

Low result: treat the horse once a year for tapeworm, in the autumn.

High result: treat the horse twice a year for tapeworm, once in spring and once in autumn.

There is no requirement to repeatedly test these horses, but just base their on-going tapeworm treatment on the initial test results.

Praziquantel and double dose pyrantel are both effective in treating tapeworm.

Treating Horses with High Faecal Worm Egg Counts

3. Effective use of Chemical Treatments

When treating horses with high faecal worm egg counts, the use of either ivermectin or pyrantel is recommended, using manufacturer's interval recommendations (4 - 6 weeks for pyrantel, 8 - 10 weeks for ivermectin). Moxidectin is a highly effective wormer and as such may arguably increase the risk of resistance developing to both moxidectin and ivermectin, therefore it should ideally be reserved for annual encysted cyathostome (small redworm) treatments, new horses and those with known parasite infestations. Widespread resistance to benzimidazoles at single dose means that benzimidazoles should only be used as a 5 day course, again for encysted cyathostomes.

Interval worming programmes are no guarantee to effectiveness as horses can slip through the net for a variety of reasons:

- Under-dosing due to poor weight estimation
- Under-dosing due to horse spitting wormer out
- Resistance in the worm population

Resistance in the worm population should be suspected in horses with high worm egg counts despite recommended wormer use. Resistance can be confirmed using a worm egg count reduction test (performing a WEC before and a fixed interval following worming). If you suspect wormer resistance consult your veterinary surgeon immediately.

Protocol for introducing new horses into a stable group of worm controlled horses

To Test or Treat?

TEST

Faecal Worm Egg Counts and Tapeworm ELISA

TREAT

Equest Pramox (Moxidectin and Praziquantel) should completely clear the intestinal tract of parasites

Worming Schedule for **Foals**

PASTURE MANAGEMENT

Dropping collection at least once per fortnight

GRAZING SEASON	Interval Worming with Anthelmintics From 4 months of age: Using Pyrantel (at 4 - 6 week intervals) *or* Ivermectin (at 8 - 10 week intervals)
AUTUMN	Larvicidal dose of wormer and Tapeworm treatment 5 day Panacur and either Double Dose Pyrantel or Praziquantel **Note:** DO NOT use Equest Pramox in foals less than 6 $^{1}/_{2}$ months old

Pregnant Mares treat 2-3 months prior to foaling, to reduce worm burden and pasture contamination.

Worming horses Yearling to Adult

PASTURE MANAGEMENT
Dropping collection at least once per fortnight

Test for Tapeworm

- **Negative/low result** - treat once per year in Autumn
- **Positive/high** - treat twice a year in Spring and Autumn

	Monitoring Option	Interval Worming Option
GRAZING SEASON	April - Faecal Worm Egg Count *If* **LOW** → 3 months *If* **HIGH** → 6-8 weeks Faecal Worm Egg Count *If* **LOW** → 3 months *If* **HIGH** Faecal Worm Egg Count	Interval Worming with Anthelmintics Using Pyrantel (at 4 - 6 week intervals) *or* Ivermectin (at 8 - 10 week intervals) Using Pyrantel (at 4 - 6 week intervals) *or* Ivermectin (at 8 - 10 week intervals)
AUTUMN	Treat for Tapeworms and Larvicidal dose of wormer Equest Pramox (Moxidectin and Praziquantel) *or* Double dose Pyrantel and 5 day Panacur	
NEW HORSES	Either Test - WEC Tapeworm blood test *or* Treat with Equest Pramox (Moxidectin and Praziquantel) on arrival	

Worm egg counts - bring in a fresh dropping sample in an airtight container or plastic bag labelled with your horses name, age and your name and contact number. Keep sample cool and deliver the same day to the veterinary surgery. Horses with persistently high counts should be moved to interval dosing. Horses with repeat low counts can be tested less often.

Age	Worm egg count result *eggs per gram*	
	HIGH result	LOW result
1 - 5 years	>200	<200
5 - 19 years	>400	<400
Over 20 years	>200	<200

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