

Anthelmintic use in the horse







# Fellowes Farm Equine Clinic Ltd

# Anthelmintic use in the horse



Deworming advice for horses and ponies has changed a lot over recent years because of increasing resistance of worms to dewormers (anthelmintics). At Fellowes Farm we recommend a more targeted approach to deworming, with the use of faecal worm egg counts, tapeworm saliva/blood tests and deworming only if necessary. The aim of a targeted deworming plan is to prevent clinical disease, while minimising the selection pressure for resistance.

# What are the benefits of a targeted deworming plan?

- Reduces anthelmintic resistance
  - o Four out of five dewormers are given unnecessarily
  - o Anthelmintic resistance is already widespread due to over-use of dewormers
- Healthier for your horse
  - o For every 10 grazing adult horses, only one or two will need deworming (20% of horses tend to carry 80% of the worm burden)
  - o A low level of parasites may actually help the immune system
- It is beneficial for the environment.
- Proven to save you money.
- Identifies horses with persistently high worm burdens, which may be an indicator for other disease processes, e.g. equine Cushing's.

## Why do we need a targeted plan?

- Resistance has been identified in the most commonly found worms, to all classes of anthelmintics/dewormers.
- There are no new classes of anthelmintics being developed for horses.
- Worm damage in horses can result in weight loss, poor performance, diarrhoea, colic and occasionally death.
- According to studies, most horses are being dewormed too frequently and with inappropriate products and/or doses.
- Experts agree that the traditional approach to deworming (at predetermined intervals) is misguided and has led to anthelmintic resistance.

## What is anthelmintic resistance?

Anthelmintic resistance means that a high proportion of parasites which are picked up from the pasture are not killed after administration of a suitable dewormer. There are three reasons why this occurs:

- Using dewormers too frequently this results in worms being killed before they reach sexual maturity. Therefore, only those who are genetically resistant will breed and produce more worms, which will also be resistant.
- 2. Under-dosing due to incorrect assessment of weight this helps partially resistant worms to survive. They then breed, adding to the proportion of resistant worms.
- 3. Repeatedly using the same type of dewormer this applies selection pressure on the worms and encourages resistance to develop quicker to that dewormer.

Once resistance occurs it cannot be reversed. As these drugs become ineffective it will lead to a rise in worm related disease. We do not currently have any new dewormers available for use, so we must protect and preserve the ones we do have.

By carrying out strategic deworming, we maintain a population of worms that are sensitive to anthelmintics in refugia (not exposed to treatment i.e. worms on pasture or in untreated horses). This reduces selection pressures and breeds less resistant genes back into the worm population.



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## Fellowes Farm Targeted Worming programme

- o March Worm egg count worm if over 200 epg
- o May/June Worm egg count worm if over 200 epg
- o August Worm egg count worm if over 200 epg
- o October Worm egg count and tapeworm saliva test
- o Dec- Equest for encysted larvae

## **Fellowes Farm Worming Pack**

You can now purchase a yearly worming pack that provides everything you need to start a targeted worming programme. A Fellowes Farm Veterinary Surgeon will advise you on all treatment required based on your individual results and circumstances.

The worming pack includes 4 x worm egg count kits, 1 x equisal tapeworm kit and an equest wormer for December. Any additional wormers required will be advised by a vet once results are obtained and will need to be purchased separately.

Price £80.00

#### How to collect a faecal worm egg count sample

- 1. Collect your faecal sample at the appropriate time of year, as discussed with your vet (usually between March October).
- 2. Using a glove, take a large pinch from three different areas of a fresh pile of faeces. In total we need approximately a golf ball sized amount of faeces.
- 3. Place the faeces into a sample bag, expel the air and seal the bag.
- 4. Ensure your details including name, contact number, horse name, age, date of the last deworming and the product used are provided with the sample.
- 5. Either drop the sample off at our clinic, or post first class for next day delivery.
- 6. If there is any delay in posting, then keep the sample refrigerated or in a cool place.
- 7. One of our vets will ring you to discuss the result as soon as it is available and advise on the most appropriate dewormer if necessary.
  - a. Usually we will advise deworming any horse with a WEC over 200 epg, however this may differ depending on several factors, and so you should always follow your vet's advice.



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## How to test if your property has anthelmintic resistance

This is a very useful test on properties with large numbers of horses, and for those horses with particularly high worm egg counts.

- 1) Collect faeces for a worm egg count (WEC) from all horses to be tested (ideally every horse on the property).
- 2) Any horse with a worm egg count of over 200-250 eggs per gram (epg) should be dewormed with the chosen anthelmintic.
  - a) Ensure an accurate dose of dewormer is given. If you are using a weigh tape, administer 10% more than the estimated weight (e.g. 500kg on weight tape, administer 550kg dose).
- 3) 14 days later collect faecal samples from the horses who were dewormed for a second WEC.
- 4) Your vet will calculate the reduction in worm eggs, and advise you if resistance is present on your property.

#### How to reduce the worm burden on your property

- Poo pick regularly ideally daily, but at least twice per week.
- Avoid harrowing/spreading horse muck on pastures grazed by horses.
- Avoid overgrazing and overstocking, rest pastures regularly (best done in hot weather).
- Keep muck heaps away from fields which are grazed, worms can migrate many meters.
- Prevent development of rough areas where horses regularly defecate as this can serve as a reservoir of worms.
- Co-graze or rotationally graze pastures with sheep and cattle.
- Worm new arrivals who have an unknown deworming history with moxidectin + praziquantel and quarantine for three days before turnout. This allows eggs present in the gastro-intestinal tract to be excreted.
- Avoid moving horses onto clean pasture within two weeks of deworming this results in all resistant worms moving with them, and all non-resistant worms being left behind.
- Muck out stables regularly, particularly those belonging to foals and weanlings.
- Deworm mares one month prior to foaling with an ivermectin dewormer.
- It's important to remember that a low level of worms in horses is completely normal and may be beneficial in reducing anthelmintic resistance



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# What about encysted redworm?

- Adult redworms which are laying eggs are detected on a faecal worm egg count, however the encysted (larval) stages are not.
- During the larval phase of development, redworm will burrow into the gut wall and become 'encysted'. This phase can last from days to months, or even years.
- Their mass emergence can result in a potentially fatal condition called cyathostomiasis, and is most common in the Spring, as most larvae will remain encysted over Winter rather than completing their life cycle.
- The condition is seen most commonly in youngsters (one to three years) with no deworming history, and results in inflammation of the gut and severe diarrhoea.
- Only two larvicidal products are licensed for the treatment of encysted redworm Moxidectin

Fenbendazole (huge amount of resistance in the UK, its use is rarely recommended)

## What about tapeworms?

- Tapeworms are not identified on faecal worm egg counts, as their eggs are intermittently shed in segments.
- Two tests are available to identify tapeworm antibodies, which indicates exposure to tapeworm (not necessarily current infection)
  - o Serum blood test
  - o Saliva test
- Both of these tests have been well studied and validated to show that high antibodies correlate well to the number of tapeworms in the horse.
- Small numbers of tapeworms are not clinically significant, and less than 50% of adult horses in the UK are infected with adult tapeworm.
- Tapeworm only have one parasite generation per year, so once yearly testing/treatment is sufficient for most horses.
- The optimum time for tapeworm testing and/or treatment is September to December as tapeworm burdens generally accumulate over the grazing season.
- Tapeworm saliva tests are easy for owners to perform at home by themselves.
- Two products are used for tapeworm treatment, neither has any reported resistance
  - o Praziquantel
  - o Pyrantel (double dose)
- Praziquantel is preferred as it is tapeworm specific, unlike pyrantel which will also expose other worms to treatment and may contribute to anthelmintic resistance.
- Young horses are more susceptible to disease associated with tapeworms, and so may need more frequent testing/treatment.



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# What about foals and youngstock?

- Younger horses have lower immunity to parasites and are more likely to excrete high numbers of eggs onto pastures.
- Most disease attributed to worm burdens are seen in young horses (under five years). It is unusual to see disease relating to high worm burdens in older horses due to their increased immunity.
- Paddock management and rotational grazing is essential.
- Foals should be turned out on 'clean' pasture, and nursery paddocks not used year-on-year.
- Foals should be strategically dewormed in the first year of life at set intervals from two to three months of age, according to risk. Treatment protocols should only be created by your vet, so it is important that you discuss this with them before starting your foals on a deworming programme.
- Faecal WECs should be carried out more frequently in youngstock than in adult horses.
- Tapeworm saliva tests cannot be used in foals before weaning, due to maternally derived antibodies resulting in inaccurate results, however, they should be used twice yearly after this age.