

## Worming Horses

Please remember that each situation is different and individual advice should be sought from us before starting any worm programme for your horse.

### Introduction

By regularly worming horses most owners keep worm numbers down and don't see any ill effects, however if numbers of worms increase and become significant you may see weight loss, diarrhoea and "unthriftiness". These in turn can then become life threatening. Therefore it is important for the welfare of your horse that worms are controlled by a suitable method.

The life cycle of most of the worms which affect horses are similar:

- ⇒ Horses grazing will ingest larvae from the pasture
- ⇒ These larvae develop inside the horse
- ⇒ Adult worms live within the bowel
- ⇒ Adult worms lay eggs which pass along the bowel and out with the dung
- ⇒ In warm conditions these eggs hatch into infective larvae which can in turn be ingested ↑

A faecal worm egg count gives us an estimation of the level of adult worms within your horse but small red worms and tapeworms cannot be detected by routine faecal egg counting.

There are many species of worm in a horse:

- Large Red Worms (Strongyles)
  - The life cycle involves migration of larvae from the bowel into the abdomen where they mature and return to the bowel as adults
  - These may be associated with general malaise
  - One species specifically (*Strongylus vulgaris*) migrates into arteries supplying the gut, obstructing blood flow resulting in serious colic, sometimes requiring surgery
  - Modern worming techniques are very effective at killing these
- Small Red Worms (Cythastomes)
  - The significance of this group is increasing
  - Their relatively short life-cycle, development of resistance to modern wormers and their ability to hibernate in the lining of the gut make these difficult to control
  - After ingestion the immature larvae develop in the lining of the gut and re-emerge as adults. A proportion of these larvae can stop development and wait in the lining of the gut for a number of years
  - Larvae often re-emerge at the end of the winter which can involve a large number of worms and damage to the gut can prove fatal
- Tapeworms (Cestodes)
  - Tapeworms are less likely to cause problems than red worms but are a potential cause of colic
  - Eggs are not usually detected in faecal egg counts but a blood test is available
- Lungworm (*Dictyocaulus arnfieldi*)
  - Donkeys are natural hosts for this worm but rarely show signs
  - Horses which graze with donkeys or graze land which has been grazed by donkeys may be affected
  - The worm doesn't complete it's life-cycle in a horse so no eggs are found in faecal samples
  - Horses affected by a significant number will cough due to the larvae in the lungs

- Roundworms (Ascarids)
  - Usually affect young horses – foals and yearlings
  - Even though it is an intestinal worm it often results in a cough as larvae migrate through the lungs
- Pinworm (Oxyuris)
  - There are no significant disease implications of these worms but they can cause irritation and itching around the anus
- Bots (Gastrophilus)
  - Nothing to do with worms, they are a larval stage of a certain species of fly
  - Eggs are laid by the fly on the horse's coat, often on the forelegs and chest
  - During grooming the horse will ingest the eggs which develop into larvae in the stomach, where they remain until they are passed in the faeces as pupae
  - Finding pupae in the dung may be distasteful however medical problems associated with these are rare

## How do I reduce worms without using drugs?

### Management or Pasture Hygiene

- Prevent pasture contamination, to prevent completion of the life cycles
- Avoid horses coming into contact with contaminated pasture or feed
- Horses that graze pasture are likely to encounter many infective larvae which they ingest as they graze
- The challenge on the horses can increase in the following situations:
  - Poor pasture with high stocking density
  - Heavily grazed pasture
  - Use of the same pasture by multiple horses
  - Presence of horses with high faecal egg counts (FEC)
  - Presence of young horses (which tend to be more heavily infected)
  - Warm damp weather

### Collection of faeces from paddocks

- Simple way of preventing the spread of worms
- Twice weekly is recommended
- Extremely effective way of suppressing faecal egg count (FEC)
- Disadvantage is that it is labour intensive

### Rotation of pasture

- Infective eggs and larvae on "rested" pasture die before they can infect another horse
- Minimum rest period is 3 months

### Mixed species grazing

- Cattle and sheep act as "biological vacuum cleaners", ingesting horse worm eggs and larvae which cannot survive in cattle or sheep and are therefore unable to infect any horses

### Do not overstock

- Ideally fields should have a maximum of one or two horses per acre
- Increasing stocking leads to horse grazing closer to faeces and close-cropped grass

## Do I need to worm my horse?

Most owners will worm their horses frequently enough to prevent a significant worm burden developing. Often this decision is based up on advertising and/or cost.

Strategies are not straight forward and there is no one single, simple solution.

## Problems with using wormers

- Resistance to worm drugs is widespread. Resistance to BZs but not pyrantel or Ivermectin/moxidectin is common. We must delay the onset of resistance by using the drugs responsibly and sparingly. Diagnostic tests can help.
- Worming drugs are not all the same, different classes of drugs will treat different worms and their duration of action and treatment frequency varies.
- The class of drug used should be rotated on an annual basis (Care must be taken to ensure that the class of wormer is changed not just the trade name)
- You must ensure that the correct dose of wormer is used (especially avoiding under-dosing). Weight tapes can be a useful aid to estimate the weight of a horse.
- Livery Yards can be a huge problem where wormers are used at different times, mixed grazing and resistance can spread rapidly. Ideally everyone should worm at the same time with the same class of wormer.
- Cyathostomes in the gut wall present a significant problem because the hibernating larvae cannot be detected by diagnostic tests and few drugs will kill them.

## Worming Protocols

Drugs have been the mainstay for years with the rationale that they reduce pasture contamination. But they can be used in a number of different ways:

### 1. Interval Dosing

Dosing with specific drugs at regular intervals during the high risk summer period. This can be expensive and often unnecessary especially if during the winter period or if stabled. Over use of worming will increase the development of resistance.

### 2. Strategic Dosing

Dosing at specific times of the year to disrupt the seasonal cycle of transmission, which is widely used in farm animals. Problems occur when there is abnormal weather changing the timing of peak pasture larval burden or if a heavily parasitized horse is added to a group. Horses don't develop any significant degree of protective immunity to parasites and grazing mixed age groups make this protocol difficult to institute.

### 3. Targeted Strategic Dosing

Use of faecal egg counting prior to treatment at strategic times, allowing treatment to be targeted at certain animals which have significant worm burdens. However small red worms cannot be detected so lavalidal dosing should be included. Tapeworm treatments can also be targeted by identification of significantly infected animals using a blood test.