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Worm control in horses

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Signs of worm infestation in horses can be extremely variable, ranging from a barely detectable reduction in growth or performance through to a severe disease, colic, and sometimes death.

Signs of worms:

- poor growth
- weight loss
- tail rubbing
- scouring
- coughing in young foals
- colic
- death.

There are a number of worms that infest horses; the most important are large red worms (also known as large strongyles), small red worms (also known as small strongyles or cyathostomes), threadworms and large roundworms.

Large and small red worms produce eggs which are passed in the manure. These eggs hatch and develop within the manure into immature worms known as 'infective larvae'. The speed at which these worm eggs develop into infective larvae is dependent upon temperature and moisture. In warm, moist conditions development is rapid, whereas in cool, dry conditions development is slower. Eggs and larvae can survive for considerable periods in cool weather with adequate moisture. Often the infective larvae move away from the manure to nearby pasture, ready to be eaten by a horse. A horse becomes worm-infested by ingesting infective larvae. In favourable climates, where conditions are cool and moist, pasture contamination can increase steadily; however, heat and dryness can reduce larvae numbers.

Large roundworms produce large numbers of eggs which tend to stick around the anal area of the horse, as well as to objects in the horse's environment. Large roundworm eggs develop into an infective stage, and when ingested, hatch and continue development inside the horse. Horses usually develop an immunity to large roundworms at approximately 6 to 9 months of age, so these worms are generally only a problem in foals. Foals usually ingest infective eggs while suckling from their dam.

The more horses in a given area, and the heavier the worm burden, the greater will be the level of environmental contamination.

Due to the variety of conditions under which horses are used and housed, horse owners should develop a worm control program for their own situation in consultation with their veterinarian.

Worm control program

An effective worm control program consists of drenching to remove worms from the horse; limiting reinfestation by removing manure, harrowing paddocks, or grazing management; and monitoring worm burdens using Wormtests.

Drenching

A drench is a chemical or mixture of chemicals that is capable of killing the worms inside the horse's body without harming the horse. There are many different drenches on the market today. The three main chemical groups are benzimidazoles (white drench), morantel or pyrantel (clear drench) and macrocyclic lactones. It is recommended that chemical groups be rotated every 12 months to delay a build-up of resistance in worms to a particular drench chemical. Table 1 lists examples of drenches within the main drench groups and their activity against the main horse worms.

Drench program

Foals

Foals should be drenched from 6 weeks of age every 4 weeks until 6 months of age.

Pregnant mares

Pregnant mares should be treated just before foaling to control roundworm. Make sure the drench is safe to use in pregnant mares.

Other horses

Drenching may be required as often as every 6 to 8 weeks, or as little as twice a year, depending on the drench used and whether reinfestation is being controlled. Use a Wormtest to determine when drenching is necessary.

Administration

Paste and gel drenches

Pastes and gels are convenient and easy to use. Dosage is easy to adjust. Always ensure the horse's mouth is empty of food, and deposit the drench as far back in the mouth as possible so the horse doesn't spit it out.

Powder and liquid drenches

Some powder and liquid drenches are sufficiently palatable to be accepted when mixed with feed, particularly if molasses is used to disguise them. Liquid drenches are preferably administered into the mouth using a drenching syringe. Frequent loss of drench is a problem with oral administration of liquid drenches.

Granules and pellets

Drenches available as granules and pellets have been specifically formulated for mixing in the feed. Usual recommendations are to give a smaller than normal feed and to dose each horse separately. Molasses is useful in disguising drench taste.

Tube drenches

Stomach tubing is done by a veterinarian. The drench is delivered directly into the horse's stomach, so dosage is accurate and there are no problems with large volumes or unpleasant drench odour or taste. A wider variety and/or mixture of chemicals can be used.

Dosage

Correct dosage is essential. Never under-dose. If you don't have access to large animal scales, consider floating your horse to the local weighbridge. Alternatively a girth weigh tape may be used.

A simple, reasonably accurate formula for estimating bodyweight is:

Weight (kg) = [girth (cm) x girth (cm) x length (cm)] ÷ 11000

Length is measured along the animal's side, from the point of the shoulder to the rear extremity (see figure 1).

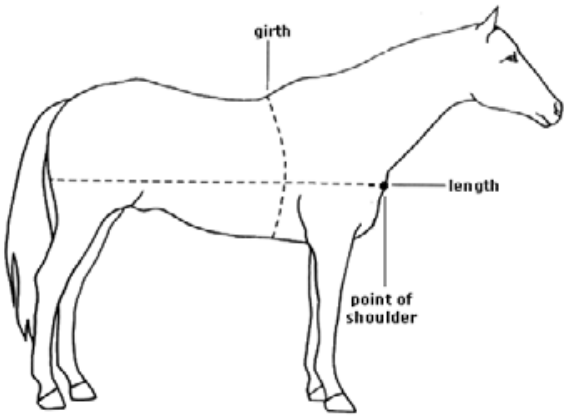

Figure 1. Measurements used to estimate the body weight of a horse.

Limiting reinfestation

The number of worm eggs or infective larvae on the pasture or in the horse's environment can be physically reduced by several management practices.

- Remove manure regularly from stables, yards and paddocks – daily to every 3 days.
- Harrow the paddock and spell it during hot, dry conditions for 6 to 8 weeks.
- Alternate grazing with another species such as cattle or sheep.
- Wash the perineum and udder of pregnant mares prior to foaling.
- Clean and disinfect foaling boxes and stables.
- Avoid feeding horses on the ground; use feed bins and hay nets or racks.

Foals and young horses should be given priority for low-worm pasture as they are most susceptible to significant disease from worms. If possible, segregate horses by age. Do not put mares and foals on paddocks previously grazed by weanlings or yearlings as these paddocks are likely to be high-risk for worms.

Wormtests

Wormtests measure the number of worm eggs in a manure sample and can be used to estimate the worm burden in the horse. The Wormtest can also tell you what species of worms are present in your horse.

Regular Wormtests can provide an indication of the effectiveness of your worm control program. They can be used as a guide to when drenching is necessary and they can be used to assess the result of a treatment.

Wormtest results should be interpreted by considering such factors as the age of the horse, clinical signs, seasonal conditions, intended pasture use, stocking rate and management practices. The horse Wormtest kit detects the presence of egg-laying adult worms in the horse. It cannot detect larvae and immature stages of worms, which can cause significant disease. For this reason you should consult your veterinarian for an interpretation of Wormtest results. Horse Wormtest kits are available from Industry & Investment NSW Diagnostic and Analytical Services, at Elizabeth Macarthur Agricultural Institute. Phone 1800 675 623.

Figure 2. Horse Wormtest kits are available from Elizabeth Macarthur Agricultural Institute.

Guide to horse wormers

For a list of horse wormers, see Table 1, next page.

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Table 1. A guide to horse wormers

Chemical Group		Wormer	Active ingredients	Red worms (large strongyles)		Small red worms (cyathastomes)			Round worms (*P.equorum*)	Pin worm (*O.equi*)	Thread worms (*S.westeri*)	Bots (*Gastero-philus*)	Tapeworm (*Anoplo-cephala*)
				Adults	Larvae	Adults	Immature lumen stage	Encysted stages					
Benzimidazole	Alone	Anthelcide EQ Oximinth	Oxibendazole	++	–	V	V	–	++	++	++	–	–
		Benzelmin Systamex Farnam Worma Oxazole Equinox Bomatak.C	Oxfendazole	++	+	V	V	–	++	++	–	–	–
		Panacur 100 Panacur Equine Guard Fenbendazole 100 Fencare 100	Fenbendazole	++	+*	V	V	–	++	++	–	–	–
		Telmin	Mebendazole	++	–	V	V	–	++	++	–	–	–
	With Organo-phosphate	Oximinth Plus Boticide	Oxibendazole Dichlorvos	++	–	V	V	–	++	++	–	++	–
		Telmin Plus§	Mebendazole Trichlorfon §	++	–	V	V	–	++	++	–	++	–
	With Pyrantel	Strategy–T	Oxfendazole Pyrantel	++	–	++	++	–	++	++	–	–	++
	With Piperazine	Benzelmin Dual Farnam Worma	Oxfendazole Piperazine	++	+	++	++	–	++	++	–	–	–
Pyrantel or Morantel	Alone	Equiban	Morantel	++	+	++	++	–	++	++	–	–	+
Macrocyclic Lactones #	Alone	Equimec Equiminth Ivermectin Eraquell Noromectin Imax LV Phoenectin Valumec Ivermectin	Ivermectin	++	++	++	++	–	++	++	++	++	–
		Equiminth Promectin Valumec Farnam Mecworma and Bot Equiwormer	Abamectin	++	++	++	++	–	++	++	++	++	–

Chemical Group		Wormer	Active ingredients	Red worms (large strongyles)		Small red worms (cyathastomes)			Round worms (*P.equorum*)	Pin worm (*O.equi*)	Thread worms (*S.westeri*)	Bots (*Gastero-philus*)	Tapeworm (*Anoplo-cephala*)
				Adults	Larvae	Adults	Immature lumen stage	Encysted stages					
		Equest	Moxidectin	++	++	++	++	++	++	++	++	++	–
	With Praziquantel	Genesis Equine Equimax LV Ivermectin Equimax Pellets Juramectin Plus Prazivec Imax Gold Eqvalan Gold Equine Science Iverquantel Strike Equiwormer LV Plus Tape Kelato Evolve Rotamectin Pottie's Big IP Ultramax Equine LV Equimec Plus Tape Equine Razor Outback Vet	Ivermectin Praziquantel	++	++	++	++	–	++	++	++	++	++
		Equimax Promectin Plus Equiwormer Plus Tape Valumax Red Valumax	Abamectin Praziquantel	++	++	++	++	–	++	++	++	++	++
		Equest Plus Tape Long Acting	Moxidectin Praziquantel	++	++	++	++	++	++	++	++	++	++
	With Morantel	Ammo Moramectin Solution Farnam Mecworma and Tape Expel Yellow	Abamectin Morantel	++	++	++	++	–	++	++	++	++	++
	With Morantel or Pyrantel and Praziquantel	Virbac Horse Wormer Equimax Elevation	Ivermectin Pyrantel Praziquantel	++	++	++	++	–	++	++	++	++	++
	With a Benzimidazole and Praziquantel	Equitak Excel	Abamectin Oxfendazole Praziquantel	++	++	++	++	–	++	++	++	++	++

++ high activity, + good activity, – little or no activity, v variable depending on worm resistance, * ++ at high dose rates, # active against red worm arterial larvae.
§ Do not administer products containing trichlorfon to mares in last 6 weeks of pregnancy.