Worming horses and ponies an update

-by Nick Bowen BVetMed, CertEP, MRCVS, Chalgrave Equine Clinic near Dunstable.

The nature of equine parasitic infestation is better understood now than it was a few years ago. It has become apparent that certain equines are predisposed to developing high levels of infection whilst others are fairly resistant and may only have modest or low levels. Screening tests such as worm egg counts and serum protein electphoresis (a blood test) exist but it is often difficult to accurately identify heavily infected animals. Future research will hopefully lead to the targeting of these animals for intensive treatment.

Although worming is advisable in all horses and ponies that graze even for short periods, correct management is **equally** important and can actually prevent infection occurring. Far better to **prevent** infection than to have to treat it with all the related risks of disease. The old adage of one horse per acre prevented over stocking but is probably unrealistic nowadays. If overstocking occurs the pasture will divide itself into grazed areas and rough areas (where horses habitually stale and pass droppings). Animals low in the "pecking order" will graze in the rough areas where the levels of infective larvae will be high. As you will see from the small redworm life cycle depicted, small redworm eggs can hatch within two days and be attached to the blades of grass ready for reingestion within seven days. This is why it is important to get out of bed early every Sunday morning and pick up those droppings! In an ideal world they would be picked up daily before the larvae emerge. Frosts and hot sun will kill larvae on pasture. Pastures left free of equines for at least **five** months will be significantly cleaned up but not necessarily free from infection. A flock of sheep can act as a biological vacuum cleaner. Mowing or topping the rank grass will help.

The use of modern worm medicines has rendered the large redworm S.vulgaris, which used to be considered public enemy number one, to be of reduced significance. Indeed small redworms or cyathostomes now contribute more than 90% of the worm eggs excreted in the dung.

It is the emergence of small redworm larvae from the large intestine wall that causes the disease vets refer to as larval cyathostomosis. This is seasonal (November to May) and generally presents as a sudden loss of weight with or without diarrhoea. It can involve colic in youngsters. Under certain circumstances the mortality rate can reach 50%+. The encysted stage of this parasite can be treated with **Equest** or **Panacur Equine Guard.** Currently, the only product licensed for the control of inhibited larvae is **Panacur Equine Guard** but there is plenty of evidence that **Equest** works too and a product licence may soon be forthcoming. Studies are under way to develop a diagnostic test to identify horses and ponies with significant encysted / inhibited larval infections so that they can be specifically targeted for treatment. Currently the best course is prevention. Good management will reduce infection from the pasture.

Tapeworm (Anoplocephala perfoliata) has assumed greater significance. Recent work at Liverpool University has indicated that up to 80% of equines may harbour tapeworms. Once again, the severity of the damage is proportional to the number of tapeworms present. As the tapeworm burden increases so does the risk of colic. A diagnostic blood test which identifies antibodies produced against tapeworm infection is now available. It is often used in the investigation of horses with recurrent colic but can be used as a screening test on healthy horses. If there is no sign of tapeworm infestation, no treatment is necessary. If the test reveals the presence of tapeworm it can be specifically treated. In the absence of diagnostic testing it is usual to treat for tapeworm with a double dose of pyrantel **(Strongid P or Pyratape P)** or with praziquantel **(Equimax or Equitape**) twice yearly in April and October.

Bots (Gastrophilus) are fly larvae not worms. Female adult bot flies resemble bees and are often a source of distress when egg laying. The adult bot flies are killed by winter frosts so their regeneration depends entirely on the survival of their larvae inside the horse during the winter months. You should treat for bots in early December, after the first frost using a macrocyclic lactone (see table on page 28).

GROUP A Macrocyclic Lactones	GROUP B Pyrimidines	GROUP C Benzimidazoles
Equest (moxidectin)	Strongid P (pyrantel)	Panacur (fenbendazole)
Eqvalan (ivermectin)	Pyratape P (pyrantel)	Panacur Equine Guard (fenbendazole)
Eraquell (ivermectin)		Telmin (mebendazole)
Furexcel (ivermectin)		
Noromectin (ivermectin)		
Panomec (ivermectin)		
Vectin (ivermectin)		
Equimax (dual wormer, ivermectin and Praziquantel)		

Tapewormers

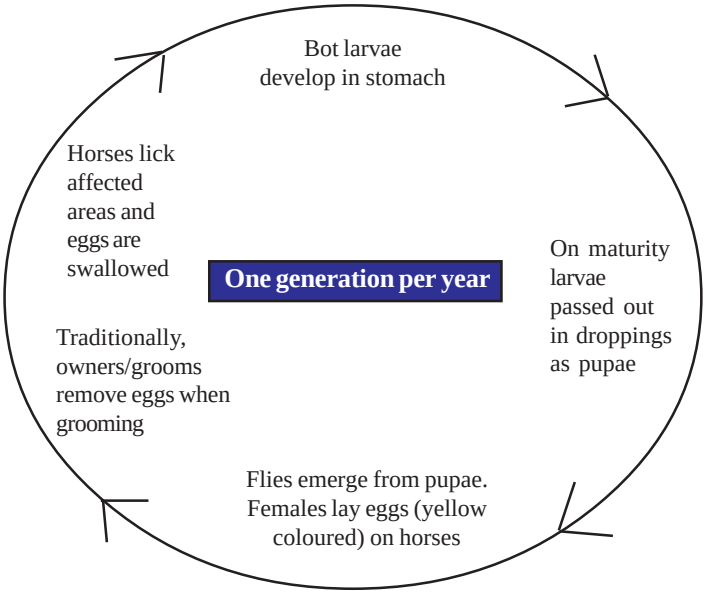
Equitape *(praziquantel)*
Equimax *(dual wormer ivermectin & praziquantel)*

Other parasites that need to be considered when designing a worming programme include:

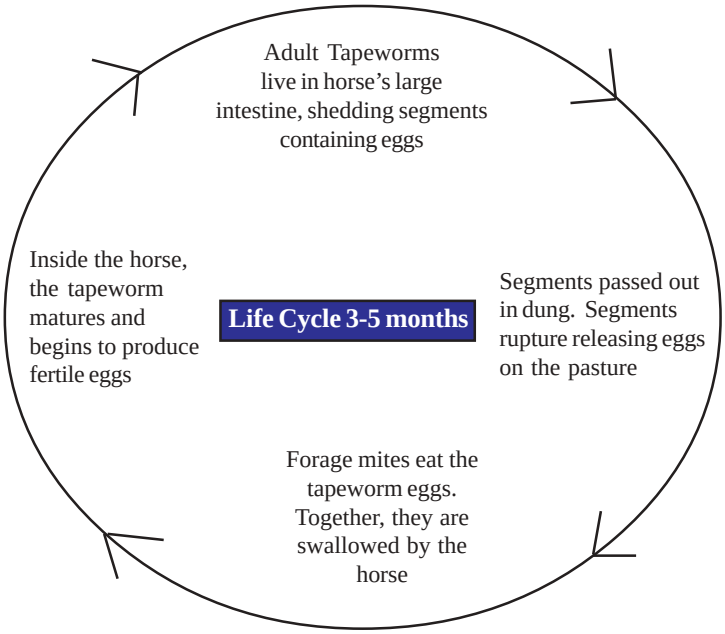
Foals
- Threadworms (Strongyloides)
- Large roundworms (Parascaris) (can reach 50cm in length)

Adult Horses
- Lungworm (Dictyocaulus) (causes chronic coughing) Donkeys usually carriers.
- Pinworms (Oxyuris) (causes scratching and rubbing of the anal region).

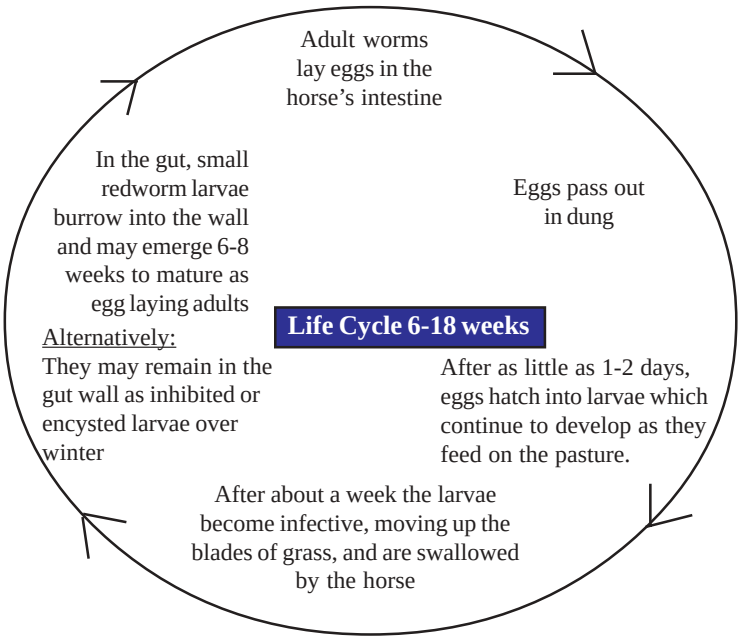
Bot Life Cycle



Tapeworm Life Cycle



Small Redworm Life Cycle



General points:

1) No single wormer for all equine parasites is available.
2) "Chopping and changing" drugs every time you treat your horses will encourage drug resistance. The recommendation is to use one main wormer per grazing season for redworm control with extra tactical dosage against tapeworms, encysted small redworm larvae and bots.
3) Adult small redworms may be resistant to group C, the benzimadazoles including **Panacur.** The pyrimidines are slightly less effective against adult small redworms than the macrocyclic lactones but are still useful. Group C would not therefore be a logical choice as a basic wormer but **Panacur Equine Guard** may still be usefully incorporated into an annual programme. The makers of this product Hoechst Roussel Vet are happy that even when adult small redworm resistance is present it will still be effective against the encysted and inhibited larvae.
4) Foals can be wormed with **Strongid-P or Pyratape P** from 4 weeks and with **Eqvalan** from 6 weeks. Equest should not be used before 4 months. Dosing should be repeated every 4-6 weeks until weaning at 5-6 months when the youngsters can join the adult programme.
5) All three groups are safe for the use in pregnant mares.

Different establishments will have differing priorities when it comes to a worming programme. Blanket recommendations, applicable to every situation, are not appropriate. A DIY livery yard with limited grazing and limited managemental input will have to rely on worm medicines to a far greater degree that a private owner with a closed population of two or three middle aged horses and who manages their grazing scrupulously.
My three-year worming cycle on the next page is just a basic suggestion. It involves fairly extensive medication. If you have any problems with high stocking density, picking up droppings, rough areas of pasture and horses of different ages and backgrounds using the same grazing then it is an appropriate programme to follow. You can however reduce your expenditure on worm medicines by three means:
1) Significantly improve your management.
2) Collect droppings samples from all the horses and ponies in the group in April/May. Ask your veterinary practice to run worm egg counts. This will give you a good idea of the level of redworm infection at the start of the grazing season. If there is a significant level of infection, adhere to the manufacturer's guidelines regarding dosing intervals. If the results indicate a low worm burden you are justified in worming less frequently, especially if you do what you can regarding management.
3) Perform a routine tapeworm blood test.

New comers to a yard or to group of horses grazing a specific pasture should be dosed and subsequently isolated before joining the others. There is a lot of discussion about whether to stable for 24, 48 or 72 hours after dosing. This is, in fact, fairly academic as most of the main drugs will kill the adults and the larvae and some will kill the eggs as well. A compromise solution might be to worm with **Equest** and keep in for 48 hours.
Underdosing (particularly ponies) is commonplace and will ultimately lead to a drug resistance problem.