



De-worming foals

Foals are born with no parasites in their intestines, but are exposed to them right from the first days of their lives. They are much more sensitive to intestinal parasites than adult horses, as immunity to parasites is established gradually.

By Marie Delerue | 03.04.2017 |





Portrait of foals out at grass

What are the main parasites affecting foals?



Strongyloides Westeri (Equine Threadworm)



Foals' contamination with Strongyloides Westeri takes place through suckling the mare's milk

Strongyloides Westeri, equine threadworm is the first to affect foals after birth. Infestation is variable depending on studs. It is relatively frequent in **Normandy** (5% to 11% of foals aged less than 6 months are infested). In foals, this infestation is frequently sub clinical. When there is a **massive infestation**, the foal may have **diarrhoea** between 10 and 14 days after birth. Foals are mainly contaminated through **larvae in the mare's milk**. Specific immunity develops rapidly : foals are resistant to threadworm at around 4 months old.

Adult horses are asymptomatic carriers. However brood mares can host worms in the larvae stages , they activate during foaling, migrate to the mammary glands, then to the milk.

Parascaris equorum (Equine roundworm)



Adult roundworm

The second parasite affecting foals is an ascarid : *Parascaris equorum or equine roundworm.* This parasite is the most dangerous for the foal's health, when massively infested, it can cause fatal colic, through rupturing the intestines. Infestation by ascarids is very frequent (31 % of 3 to 9 month old foals in Normandy are affected) with a peak in autumn. Foals ingest eggs which were shed by foals present on the pastures in previous years : ascarid eggs are extremely resistant and can survive in the environment for several years. Foals acquire immunity to ascarids quite late, between the age of 6 months to 12 months.



Mall strongyles or cyasthostomes (bloodworms)



Larvae of small stongyles

Infestation by **small strongyles** occurs later on in life (39 % of foals aged between 3 and 9 months in Normandy), infestation linked to **diarrhoea and weight loss.**

Tapeworm



Adult tapeworm in droppings

Tapeworm is the last parasite to affect the foal (2 % of foals between 2 and 6 months, 26 % between 6 months and 24 months). Treatment is advised in autumn.

Worming and fecal egg counts protocols for Foals

Before 2 months

Strongyloide westeri (Threadworm) is not a major threat in horse breeding. On most studs or breeding farms, **there is no need to systematically treat mares and foals** against threadworm. However where worming is necessary, a worming molecule may be used :

• For the foal in the case of diarrhoea linked to S. westeri (fenbendazole specifically dosed : 24g for a 90kg foal);



• Where the stud has had recurrent problems with threadworm, the mare can be wormed before foaling takes place (with a macrocyclic lactone derivative).

Between 2 and 6 months

Between 2 and 6 months, **ascarids** are the **main target of any worming protocol**. **Foals should be wormed at around 2 months old, then every 2 to 3 months**, with an effective wormer against ascarids, and one to which the worms have not developped a resistance.

Alternating between Pyrantel, and fenbendazole is advised. As ascarids have developped <u>resistance to macrocyclic lactones</u>, it is recommended not to use these molecules prior to the age of 6 months.

A fecal egg count (FEC) at 6 months old

Fecal egg counts will show infestation of foals by ascarids (roundworm) and small strongyles (bloodworm). It is a good idea to carry one out at around 6 months old. Before the age of 6 months, foals are mainly infested with ascarids, but after 6 months they are also infested by Parascaris equorum (roundworm), and small strongyles. Conducting a fecal egg count gives a measure of the degree of infestation by Parascaris equorum, so as to determine the molecule with which to treat them. Due to the development of resistance of parasites to de-worming molecules, a de-wormer which is effective against ascarids, may not be effective against small strongyles and vice-versa.

In the larger studs, or breeding farms, **resistance tests** may also be carried out to determine :

- The effectiveness of **macrocyclic lactones** against **ascarids**;
- The effectiveness of **fenbedazole and pyrantel** against **small stongyles**.

Between 6 and 12 months

Small stongyles (bloodworms), are the main target of de-worming from the age of 6 months. A **frequency of every three months as from the age of 6 months** is recommended. **De-worming mares who are « frequent excreters »** can also reduce contamination of the environment, and thus contamination of the foals.

Because of <u>frequent resistances of small strongyles to fenbendazole</u>, **alternating between pyrantel and macrocyclic lactones** (ivermectin or moxidectin) is advisable. Be careful, however as moxidectin is not to be used prior to the age of 4 months.

Treatment against tapeworm for 6 month old foals in autumn is also advised.

At the **beginning of spring,** it is a good idea to carry out a **fecal egg count**, in order to chose the de-wormer best adapted.



Example of deworming and fecal egg count protocols

De-worming protocols vary according to the foal's date of birth. The protocol below is only an example, and may vary according to the breeding farm, and the breeding practices : consulting your veterinarian is advised.

Period	Parasites targeted	Fecal egg count	Example of Molecule
15th June (age 2 months)	ascarids		Fenbendazole
15th August (age 4 months)	ascarids		Pyrantel
15th October (age 6 months)	Small strongyles, tapeworm, ± ascarids, + bots	If possible	Depends on the result of the egg count Where there is no egg count : Moxidectin and Prazinquantel
15th January (age 9 months)	± ascarids, small strongyles		Dependant on the parasitic hazard on the stud/ breeding farm
15th April (age 12 months)	Small strongyles, ± ascarids	If possible	Ivermectine

Example of a protocol for a foal born on April 15th :

De-worming protocol and fecal egg counts for the brood mare

Brood mares <u>can be de-wormed according to the same protocol</u> as the other adult <u>horses present</u> on the stud. A **de-wormer in the spring** keeps **early infestation of foals down** considerably.

Sanitary measures in the foal's environment



Foals are **particularly sensitive to parasitical infestations**. Moreover ascarids' egs are extremely resistant in the environment. Measures can be taken in the pastures and stables to **limit the parasitic pressure** which the foal is subjected to :

- Give the foaling loose boxes a thorough clean with a high pressure hose, using hot water (> 60°C), and disinfect;
- **Clear out droppings** : once a day in the boxes, once a week in the paddocks;
- Use healthier pastures for the foals : pastures that have been cut, pastures that have been rested for several months, pastures used alternately by cattle;
- **Don't use the same pastures for the foals every year** (resistant ascarids will accumulate from year to year).

Remember

► The foal's two main parasites are acarids, and small strongyles.

► Foals should be subject to **systematic de-worming**, due to their high sensitivity to worms.

► To **avoid contaminating the foal's outside environment** with ascarids' eggs, which are extremely resistant, specific measures must be taken.

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Document to download (french)



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