

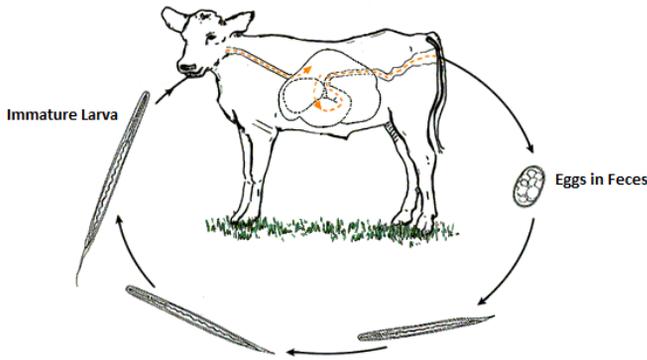


OEFFA Organic Certification Fact Sheet

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Ruminant Parasite Management

As an organic farmer, you solve problems through management, not treatment. Unfortunately, some parasite load is a fact of life with grazing ruminant herds. As they graze, your flock consumes juvenile parasites that mature completely inside the stomach and intestines and latch on, sucking blood and nutrients. Female parasites release thousands of eggs a day, which the infected animal “sheds” through the feces. Eggs laid in warm, moist conditions hatch after only 3-5 days and crawl up blades of grass to be consumed by another host. The most common internal parasite in cattle is *Ostertagia*, the brown stomach worm, while sheep and goats are affected mostly by *Haemonchus contortus*, the barber pole worm.



Back Grazing

The key to organic management is outsmarting the parasite life cycle. Temporary electric fencing that is easy to move around the pasture will allow you to control exactly where your animals graze and shed eggs. In conditions that are ideal for parasite development, the herd should be moved to a fresh area every 3 days. After an area has been grazed, it is considered “hot” and should not be touched again for another three months to ensure parasites have mostly died off.

The goal here is not to create parasite-free fields, but to decrease the number ingested. This strategy is reinforced by something you are already great at as an organic farmer: careful record keeping. Keeping track of your rotation is essential in making sure your herd is not on hot pasture, as an animal’s condition can deteriorate significantly after a short period of grazing on highly infected pasture.

Varying Susceptibility

Animals react to parasites differently depending on their age and condition. Bulls, steers, and cows that did not calf are the most resistant. They can eat just as many eggs as a compromised animal, but shed only around 2000 eggs per day on average. They also experience fewer symptoms. Lactating cows and weaned calves shed around 5000 eggs per day and are more prone to experience symptoms such as anemia and weight loss in response to parasites.

Susceptible animals should be on their own pasture rotation to prevent them from heavily infecting your main fields. Grain supplementation in lactating animals can help limit weight loss. After weaning, mothers can be moved back with the normal herd, as they will regain normal adult immunity soon. Calves should be moved to a “clean” pasture so they can continue to gain weight with as few parasites as possible.

Clean pastures

There are a few ways to create a clean pasture. The easiest is to harvest hay for a year instead of grazing the field. Another is to leave it fallow. In some circumstances, it is possible to plant an annual crop such as turnips and harvest early enough to reuse the land as pasture in the same season. A winter crop like cereal rye will provide a larvae-free spring field for grazing.

The best option is to graze another species of animal if you raise two species, or your neighbor farms a different species. Cows, horses and sheep are infected by different parasites, so rotation between them will make life difficult for each species of parasite. Also, the area is continuously in use, increasing overall productivity. When rotating species, be careful not to allow your animals to graze on non-certified land, as they will lose organic status.



Resistance

Resistance to parasites starts with healthy, well fed animals. However, some are naturally more resistant while others carry very large parasite loads, shed many eggs, and experience adverse effects. The “80/20” rule states that 80% of the parasites in the herd are carried by 20% of the animals. Thus, by identifying and eliminating the most afflicted individuals, the overall resistance and health of your herd will improve. Choose the most resistant males and females for breeding stock to increase herd health in each new generation.

Detection

Animals suffering from obvious symptoms of parasite infection such as weight loss, lethargy and skin problems are fairly easy to identify. A more accurate method is to collect a dung sample for analysis. Veterinarians can test and identify specific parasites and offer a fecal egg count on an animal. You can determine fecal egg count yourself with a minimal investment in equipment. Detailed instructions can be found in the McMaster egg counting technique link below.

Additionally, some parasites cause anemia which can be detected by looking at the membrane around the eye. A red membrane means healthy blood, while white indicates anemia and a large blood-sucking parasite load. A FAMACHA card can help with identification in sheep and goats by providing a color scale for comparison with your animal's eyes. Training and a card can be obtained from your veterinarian. The FAMACHA approximation link below gives a color approximation. The system suggests testing a sample of 15 animals every week during grazing season as internal parasites can quickly induce dangerous anemia.



FAMACHA approximation: <http://www.nda.agric.za/docs/AAPS/FAMACHA/FAMACHA2.jpg>

McMaster egg counting technique: <https://www.rvc.ac.uk/Review/Parasitology/EggCount/Purpose.htm>

References

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Tikofsky, Linda. Organic Dairy Herd Health: External and Internal Pests and Parasites. 2013.

<http://www.extension.org/pages/67228/organic-dairy-herd-health-external-and-internal-pests-and-parasites#.U6g4XfldVpc>.

Emergency Treatment

In an emergency, animals may be selectively dewormed. Dewormers cannot be administered on a routine basis in organic production. Also, they may only be given to dairy and breeder stock; slaughter stock lose organic status after treatment. Dairy cattle require a 90 day withdrawal period before their milk is once again considered organic. Breeder stock may not receive treatment during the last third of gestation.

Approved parasiticides include Fenbendazole (by script only), Ivermectin, and Moxidectin. If you are forced to use parasiticides twice in the life of an animal, use a different type the second time to prevent dewormer resistance in the parasites on your field. Additionally do not treat the entire flock or even all of your calves, as this helps create a dewormer resistant population of parasites.

None of these approved synthetic treatments is effective against coccidiosis, a protozoa that often kills animals through diarrhea induced dehydration. If allowed methods fail, the animal must be treated, even though treatment with a prohibited substance will result in the animal losing organic status. The animal is required to be separated from the organic herd and all products sold as conventional.

External Parasites

Horn flies, face flies and stable flies reduce weight gain and milk production and spread disease. Numbers can be reduced by keeping your herd away from marshy and muddy areas and improving drainage in your field. Flies reproduce in manure, so the cleaner your facilities are, the better. Adult flies can be controlled using pheromone traps and sticky tape. Small parasitic wasps can be purchased and strategically released to destroy fly pupa with their own larvae. Finally, hydrated lime* and diatomaceous earth can be applied to the animal's coat using dust bags and rubs to keep flies away.

Lice infections may be continuous, but are worst in the fall and winter. Large numbers of lice can suck enough blood from your animal to decrease productivity. Often the small parasites are shed when the animal loses it's winter coat. Hydrated lime * or sulfur dust bags are effective in killing lice.

*Not permitted to be used to cauterize physical alterations or deodorize animal wastes.

NOP Citation

➤ See NOP § 205.238, § 205.603 and § 205.672