



Timely Topics

Organic Management of Internal Parasites

August 2017

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Organic livestock production is increasing in the United States, due to demand for organic products, including meat, milk, and fiber. Offering certified organic products can be a way for livestock producers to receive a higher price. Additionally, some producers choose to use organic practices out of a desire to limit “chemical” use. Whether or not your livestock are certified organic, many organic management practices are useful to know to promote the health of your animals.

Organic regulations require producers to use good management and animal selection as the primary means of raising healthy animals. The organic regulations also require producers to use effective means to treat illness if the preventive techniques fail. Following is a description of the preventive techniques and of the (very limited) options for organically acceptable treatments.

Animals have always coexisted with parasites. The keys to coexisting include a strong immune system and low exposure to parasites.

Parasites are present on our farms, and it is impossible to eradicate them completely. When parasite numbers are too high for the host animal’s immune system to control, we observe signs of disease, including weight loss, appetite loss, depression, weakness, and, if not treated, death.

Yet animals have always coexisted with these parasites. The keys to coexisting include a strong immune system and low exposure to internal parasites. A strong immune system is naturally present in some animals. Selecting those breeds and individuals is



Image by S. Schoenian

part of a good animal-health strategy. Additionally, strong immune systems are encouraged through good nutrition and low stress, including healthy living conditions and calm handling.

Meanwhile, exposure to parasites will not overwhelm the strong immune system if parasite numbers are kept low. This is accomplished through sanitation (clean water tanks and feed troughs) and through pasture management.

These keys to preventing illness from parasites are stated in the organic regulations. Here is what the United States Department of Agriculture (USDA) National Organic Program (NOP) Livestock Health Care Practice standard says regarding parasites: (7 CFR §205.238)

- 1) Producer must use preventive practices, including:
 - Animal selection, choosing species and types suitable for local conditions and resistant to prevailing diseases and parasites.



Image by J. Burke

- Provide adequate nutrition.
 - Establish housing, pasture conditions, and sanitation practices to minimize occurrence of diseases and parasites.
 - Keep stress low.
- 2) When the above measures are not enough to prevent sickness, a producer may use synthetic medications, provided they are allowed under 205.603 (the National List of Allowed and Prohibited Substances) but **ONLY** in certain circumstances. These include:
- Breeding stock, when not in the last third of gestation, but not during lactation for progeny that are to be sold, labeled, or represented as organically produced.
 - Dairy stock, when used a minimum of 90 days prior to producing organic milk.
- 3) A producer is **PROHIBITED** from:
- Using synthetic parasiticides on a routine basis.
 - Using synthetic parasiticides on slaughter stock.

obligated to treat sick animals, even if it means they lose organic status (check 205.238(c)(7) – NOP CFR). For example, if a group of young lambs becomes parasitized and needs treatment, the producer is required to treat them and then identify and note clearly in the records the treated individuals, which no longer have organic status. As of July 27, 2017, here is what the National List says about parasiticides:

(18) Parasiticides—Prohibited in slaughter stock, allowed in emergency treatment for dairy and breeder stock when organic system plan-approved preventive management does not prevent infestation. Milk or milk products from a treated animal cannot be labeled as provided for in sub-part D of this part for 90 days following treatment. In breeder stock, treatment cannot occur during the last third of gestation if the progeny will be sold as organic and must not be used during the lactation period for breeding stock.

- (i) Fenbendazole (CAS #43210-67-9). Only for use by or on the lawful written order of a licensed veterinarian.
- (ii) Ivermectin (CAS #70288-86-7).
- (iii) Moxidectin (CAS #113507-06-5). For control of internal parasites only.

There is very limited use of certain parasiticides in organic production. However, organic producers are



These restrictions must be respected to market slaughter stock or organic milk. Always check with your certifier before using any material to be sure the use is acceptable.

Grazing management is the single-most important thing a producer can do to prevent illnesses from internal parasites. See ATTRA's Tools for Managing Internal Parasites in Sheep and Goats: Pasture Management for a full discussion on this topic.

- Do not allow livestock to graze shorter than 3 or 4 inches, because internal parasite larvae will be concentrated near the ground level, generally speaking.
- Use multi-species grazing to break parasite cycles; cattle do not share parasites with sheep or goats. Sheep and goats DO share parasites.
- Allow the pastures to rest by grazing with a different species of livestock or cutting for hay before coming back to graze the same pasture again. A 60-day rest will help internal parasite levels naturally die back.
- Provide diverse pastures. Having many forage species present will promote intake and also improve the nutritional quality available for the livestock. It may also supply unknown medicinal substances to promote the health of the animals.
- Provide browse. Internal parasite larvae will not be present on the leaves, and the plants may provide medicinal substances as well.
- High-tannin forages such as sericea lespedeza have been shown to reduce fecal egg counts in sheep and goats. See ATTRA's Tools for Managing Internal Parasites in Sheep and goats: Sericea Lespedeza for more information.
- Graze younger, more parasite-susceptible stock first on fresh pasture that is less contaminated by parasite larvae, to help protect the health of these more-vulnerable animals.

Providing excellent nutrition, including trace minerals, will help livestock by boosting their immunity, making them less susceptible to parasites and other diseases.



Image by S. Schoenian

Good sanitation is also essential to encouraging good animal health and minimizing internal parasites and flies. Remove manure and keep water and feed troughs clean.

Selecting animals that have inherent resistance to internal parasites is required by the USDA organic regulations. Keep good records and cull those animals that are most susceptible. See ATTRA's Tools for Managing Internal Parasites in Sheep and Goats: Animal Selection for an explanation of why and how to identify your strongest livestock.

In certified organic livestock production, there is no silver bullet. Just a few synthetic dewormers are allowed, but they are NOT allowed during the times when sheep or goats are most likely to need it: for young animals before immunity has had time to develop, and in lactating females. This means that to keep certified organic status, management has to be top-notch. For all producers, paying attention to management is key to success.

What about "organic" dewormers? Unfortunately, the dewormers that are allowed are not likely to be effective. However, some certifiers allow the use of copper oxide wire particles, a natural substance. See ATTRA's Tools for Managing Internal Parasites: Copper Oxide Wire Particles. Be sure, if you plan to use copper oxide, that you test copper status of your animals in advance. Be aware of the potential for copper toxicity in sheep. Talk with your certifier before using any treatment materials that are not listed in your



OSP.

Applying these principles will require that producers limit livestock to a number appropriate for the land base, even though this requirement is not specifically spelled out in the organic regulations. However, according to the regulations, certified organic livestock must obtain at least 30% of their dry matter intake from pasture, and must receive adequate nutrition.

To do that and avoid internal parasites, you must have enough land. In some regions, it may be cost-prohibitive to raise livestock under these restrictions. It is wise for a producer to consider the economic feasibility of the enterprise before committing.



Image by S. Schoenian

For more about organic production of sheep and goats:

- **ATTRA:**
www.attra.ncat.org
- **Tipsheet: Organic Approach to Animal Health**
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=528>
- **Tipsheet: Treatment of Sick or Injured Organic Livestock**
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=520>
- **Managing Internal Parasites in Sheep and Goats**
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=215>
- **Coccidiosis: Symptoms, Prevention, and Treatment in Sheep, Goats, and Calves**
<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=483>
- **eXtension's Organic Dairy Herd Health: External and Internal Pests and Parasites, is a concise article with helpful tips.**
<http://articles.extension.org/pages/67228/organic-dairy-herd-health:-external-and-internal-pests-and-parasites>
- **USDA Organic Regulations 7 CFR 205**
<https://www.ams.usda.gov/rules-regulations/organic>
- **USDA National Organic Program Handbook**
<https://www.ams.usda.gov/rules-regulations/organic/handbook>
- **USDA National List of Allowed and Prohibited Substances**
<https://www.ams.usda.gov/rules-regulations/organic/national-list>

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