

# Teaching Organic Sheep and Goat Management and a Lesson in Parasite Management



By Colin Lundy

**I**N 2008 CANADIAN ORGANIC GROWERS (COG) PUBLISHED THE FIRST OF ITS PRACTICAL SKILLS HANDBOOKS titled “Living With Worms in Organic Sheep Production”, written in part by Peter Stockdale, an organic sheep farmer in the Okanagan region and a retired veterinary parasitologist. Coincidentally, the same year brought some of the wettest weather on record in Ontario and Quebec. Where I live in Eastern Ontario there were only seven days in June without precipitation giving an accumulation of 107 mL (about 40% above normal amounts). Wet weather made living with worms a difficult challenge for sheep and goat raisers in the region. Increasing incidents of parasitic resistance to anthelmintic dewormers adds a whole other dimension to the struggle.

Recognizing that parasite pressure is often the last (and arguably the largest) obstacle preventing sheep and goat raisers from being organic, and the confluence of the publication of “Living With Worms” with a pasture season bearing a heavy parasite load, COG-Ottawa Chapter organized a workshop day on organic sheep and goat raising with a focus on managing parasites. To the knowledge of COG-Ottawa, such a course has never before been offered in Eastern Ontario, and perhaps in Canada. Therefore, we had to find local organic sheep and goat farmers who were not only raising flocks without using anthelmintics, but also willing to develop a curriculum and deliver a course to other interested farmers.

In the end we were lucky to find two farmers interested in facilitating the course. Achim Mohssen-Beyk owns Reachview Farm, a 250 certified organic farm near Picton, Ontario. He raises certified organic Katahdin and Tunis sheep and Nubian and Saanen goats, as well as other livestock, some fruits and vegetables and field crops, hay and pasture. At their height, Achim’s flocks were about 150 ewes and 20 does, but have recently been cut back to 60 ewes and 8 does. Achim participated in the Sheep Parasite Research Program of the University of Guelph and the Organic Agriculture Centre for Canada, and was told that his farm had amongst the lowest intestinal parasite counts of all participating farms. Achim is also a past board member of COG and the Ecological Farmers Association of Ontario (EFAO), and is currently a trained facilitator for EFAO and acting Vice President for Organic Conferences of Canada.

Peter Smith owns Fair Weather Farm, a certified organic sheep and vegetable farm near Osgoode, Ontario. He currently manages a flock of 25 Katahdin ewes, with plans to increase to 50 ewes. Peter’s sheep do not get any grain, but only good quality pasture, hay and the occasional vegetable culls. Peter is also an organic certification inspector for one of the prominent certifying bodies operating in Canada.

Neither of the course facilitators is a “born” farmer. Therefore, acquiring knowledge is the key to their success.

Twenty-three participants attended the course in Ottawa in February of this year. Most were conventional farmers feeding grass and grain. A few were non-certified organic farmers and one was certified organic. Many raised both sheep and goats, with some raising only sheep and a couple raising only goats. Sheep flocks were generally much larger than goat flocks although there was a lot of variety. Sheep flocks ranged from two ewes to 650 ewes. Goat flocks ranged from one doe to 112. There was one participant with no sheep or goats but was building knowledge for when he does acquire a flock.

The remainder of this article will briefly describe some of the main points and learning highlights of the day, but is by no means exhaustive.

The challenge of parasite management affects both organic and conventional sheep and goat raisers. However, according to Achim and Peter, organic soil, pasture and feeding management strategies offer many advantages over the conventional strategy of routine deworming of entire flocks using anthelmintics. In other words, the approach of organic sheep and goat management is to create an environment where parasites are unable to overwhelm a flock’s health, rather than continually using drugs to treat symptoms rooted in poor flock management.

Flocks should be pastured in paddocks and moved to other paddocks frequently, especially in wet weather. Parasites lay eggs in the animals’ intestines, which are excreted onto pasture. Eggs then hatch and climb to the tops of blades of grass to be readily consumed again by the animals. By this process, the animals are continually increasing the parasitic load in their intestines, until they are overwhelmed, leading to disease and death. Therefore, the flock should be moved to a new paddock to prevent the eating of more generations of parasites. The flock should not be returned to the same paddock for several weeks, or even months, depending on soil, climate and weather conditions. Waiting longer



Browsing through the “Living With Worms” handbook and other resources on organic agriculture.

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to return a flock to a pasture not only allows manure to compost and pasture to regenerate, but also allows wind and sun to dry out and kill parasites in that pasture. This disrupts the breeding cycle of parasites and reduces the overall parasite load in any given animal's intestine.

Healthy (living) soil is also critical to pasture health and thus to livestock health. Therefore nutrients should be returned to the soil as much as possible by pasturing, spreading manure and compost. Soil tests should be conducted to determine if other organic amendments also need to be added to the soil for proper nutrient balance. Pasture and hayfields should be diverse, including grasses and clovers, both for the benefit of the livestock and for soil. Some weeds such as chicory and wormwood, not only draw up micronutrients from the subsoil, but also may have anti-parasitic affects when consumed by sheep and goats. Achim

particularly stresses that hay should be cut as little as possible. Cutting hay is removing nutrients without returning them, unless compost and manure can be spread. Furthermore, he estimates that topsoil loss due to haying is approximately equivalent in weight to the amount of hay taken off!

Achim gives small amounts of grain only at the onset of lactation and Peter gives no grain at all. While diplomatic about this sensitive issue, the two facilitators felt that grain is difficult for sheep and goats to digest and disrupts the pH of the digestive system. Ultimately, grain feeding compromises the health of sheep and goats, making them vulnerable to further health problems. Weaning of lambs and kids is done late or whenever the lambs and kids wean themselves. This encourages robust and healthy lambs and kids, and reduces the time spent eating hay and/or pasture hosting parasites.

Breeding is another factor that impacts the effect of parasites on a flock. Both Peter and Achim manage their flocks, but in different ways. Peter selectively breeds to encourage strong, healthy and robust lambs. Achim tends to not interfere with the natural breeding of his flock, but instead aggressively culls his flock. Young males are marketed first, and then second choice females. He also culls all sheep and goats exhibiting chronic health problems and undesirable traits. In both cases, the criteria for selection likely intuitively promote either resilience or resistance to worm pressure.

There was a little discussion about housing for goats and sheep. Housing requirements, and general protection from sun, wind and cold, are minimal. Extended periods in the barn only increase the potential for increased consumption of parasites, respiratory problems and other health issues. When animals are kept in the barn, sanitation, thick clean bedding and good airflow are critical.

The bottom line is that soil capable of growing good quality pasture coupled with rigorous flock management results in a strong healthy flock. Even though parasites are present, the animals are neither vulnerable to, nor do they succumb to, parasitic disease. There are several natural dewormers permitted in organic production such as a garlic tonic, Hoegger's herbal wormer, Diatomaceous Earth, and some homeopathic remedies. Some people swear by them. Peter has tried some of these alternative dewormers with inconclusive results. He stresses good management, as described above, to be the best strategy.

Apart from the discussion about raising sheep and goats organically, part of the day was spent talking about what organic certification means and how it works. While most of the course participants were conventional, several were there to learn more about organic production, so there was some interest about the organic certification process. There was also interest in discussions surrounding marketing certified organic meat, including the challenges due to the fact that there are no abattoirs in the region with organic certification (The Organic Standards and Regulations acknowledge and account for this gap, but it would be better if there were abattoirs with organic certification).

Overall, the day was deemed a success. Feedback was quite positive and new knowledge was learned. Participants valued learning in detail how two certified organic farmers are managing their sheep and goat flocks without using anthelmintic drugs. Nonetheless, as a first time event, there is room for improvement. Most of the participants were veteran sheep and goat farmers. While participants learned from this course, many felt it needed to go beyond general discussions about pasture, flock and parasite management. Participants desired more detailed, specific and technical knowledge about the components of soil health, parasite biology, and organic treatments for parasites.

Luckily, COG's handbook "Living With Worms in Organic Sheep Production" offers some of that technical knowledge as well as resources for further research. The book is not thick, but its subject matter is focused and to the point. Worms will always be present in sheep and goat intestines. The handbook advises how to manage livestock and parasites so that parasites are unable to overwhelm the health of the animals.

"Living With Worms", other organic farming books published by COG and other resources about organic production and organic certification can be obtained from COG's website: [www.cog.ca](http://www.cog.ca). In addition, one outcome of this course is that COG may begin hosting an online forum facilitating the exchange of knowledge between farmers about organic sheep and goat production. This is still a conceptual idea, but eventually such a forum will be accessible from the COG website. **OSN**

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Achim Mohssen-Beyk describing the management of his sheep and goat flocks.