

RAISING SHEEP ORGANICALLY

By Anne Macey

“We are working here with an age-old concept,” says Chris Boettcher. “All enterprises on the farm work in concert to make up a whole, which is bigger than the sum of the parts. The more diversity we add to the farm as an ecosystem, the easier it seems to get—managing the individual players in the symphony.”

Boettcher Family Farm

Christian and Gabriele Boettcher (and children Erik, Martin, Olaf, Peter and Ingrid)

Farm: 400 acres (162 ha) in south-western Ontario near Brussels including 360 acres (146 ha) arable

Rotation: 2 years forage, 4 years grain (rye, soy, spelt, oats) interseeded to clover

Organic certification: Biodynamic Society and Ecocert

Sheep flock: 280 ewes (Rideau and Canadian Arcott crosses), 550 lambs, Texel rams, including flocks of 50 purebreds each of Canadians and Rideaus

Climate: snowbelt, average precipitation during the growing season 244–293 mm (10–12 in.); temperatures to –30°C (–22°F) in winter, 35°C (95°F) in summer

The Boettcher family has been on their farm near Brussels, Ontario, since 1978. Chris took over the operation from his father and then converted to organic production in 1996. Pamphlets obtained from the Soil Association in the UK provided the initial inspiration for developing a clean grazing system to control worms in the sheep flock.

“Before the advent of commercial inputs,” says Chris, “ruminant agriculture had been the fertility maker on European soils for thousands of years. In our situation, each field on the farm gets both grazed and cropped every year. Manure is dropped right where it’s needed and nutrient cycling in the

soil is intensified. Sheep on the farm make growing crops and even managing weeds organically a lot easier. At the same time the flock benefits greatly from a variety of forage offerings that are not heavily contaminated by parasites.”

High levels of nutrition and frequent movement of the flock are key factors for preventing disease caused by *Haemonchus* and *Ostertagia*, the problem worms in the region. Initially Chris tried using herbal dewormers; now he rarely needs any kind of treatment. With his current production system he has had only one incidence of parasitic disease which turned out to be coccidiosis, not nematodes, when he left the flock on an area for too long a period after heavy rains.

The Boettcher farm is one of the participating farms in research being undertaken by Dr. Silvina Fernández at the University of Guelph. Field sampling started in May 2006. To date, testing has shown that fecal counts were very low and very few nematode larvae were found in the pasture samples. According to the veterinarian, levels were too low to warrant treatment.

The sheep are moved every four to seven days depending on the state of the forage and the weather. They are herded along farm tracks and township roads by family members and the dog, and then restricted to specific grazing areas using electric netting. Chris considers the netting well worth the investment of \$1 per linear foot and wishes he had used it sooner. The Gallagher B600 fencer, with a 32-watt solar panel and batteries, and two one-metre (three-foot) ground rods, is effective for fencing 5–8 acres (1.5–3.2 ha). Coyotes are in the area but have only once managed to get through the fence. The donkey protected the flock in that instance, but Chris has also found his jenny can



Gabriele, Ingrid and Chris Boettcher.

be a problem when lambs are small, as she sometimes kicks them.

Completing Chris's portable system is a water tank on a wagon attached by hose to a field waterer which is made from a hydrogen peroxide container cut in half with a large truck mud flap over the top to prevent lambs from getting in. Hydrogen peroxide (35%) is added to the water tank at a rate of 4 oz/100 gal to prevent a build-up of algae. The covered waterers are also useful for applying flock homeopathic medication. A mineral container of the same design holds salt, kelp, mineral and diatomaceous earth (DE)—the latter used as a tonic not a dewormer.

The flock is housed in a pole barn from late December to April with the majority of lambing occurring over three weeks in late March and early April. However, yearling ewes lamb over a three-week period in June. All ewes get a small amount of grain (the farm's oats and peas that do not make the grade for human consumption) before lambing. The flock is turned out as soon as possible after lambing

to prevent overcrowding in the barn which can lead to problems with coccidiosis. The sheep first graze rye cover crops on fields that will be seeded to soybeans, then are moved through the forage stands and onto stubble fields after the crops are harvested during the summer. The grain crops are underseeded to double-cut red clover at 5.6 kg/ha (5 lbs/ac.) which provides additional forage.

Immediately after combining oats, Chris disks and adds seed to get a cover of young green oats which are grazed to flush the ewes for October/November breeding—no grain is used. (Flushing is the use of high quality feed to stimulate ovulation and lead to higher rates of conception.) Good use is made of crop residues. If crops get flattened by rain or wind and cannot be harvested, the sheep are given limited access of two hours a day to clean things up. The flock stays on the fields until December and will paw through the snow to forage.

A portable corral is used at weaning to separate lambs from

ewes. This is in middle to late August when early lambs are 130 days old and late June lambs are 70 days old. The lambs then go on the best quality grazing available and the ewes on poorer grazing land. Chris considers his lambs "residue converters." With this system his lambs can achieve daily gains of 250 g (0.55 lb.) per day on grain stubble with clover. With 200 lambs & ewes per acre per day, this is equivalent to 100 lbs/acre (112 kg/ha).

The livestock and crop production systems on the farm are fully integrated. Sheep are used to provide fertility for the cash crops. Winter manure from the barn supplies enough compost for 60 acres (24 ha) of cropland—growing legumes and moving the sheep from field to field provide the rest of the nutrients needed for the crops. Chris finds it is important to keep the stocking rate balanced—one ewe and her offspring provide a better balance than two ewes per acre of workable farmland (the accepted practice for conventional producers).

Productivity and economics are good. Chris gets 2.2 live lambs from Rideaus and 1.9 from Canadian Arcotts. By seeding 5 lbs/ac. (5.6 kg/ha) @\$7.50/acre for seed of double-cut red clover in spring into the crop, he gets \$100 extra an acre in lamb gain @\$1/lb. liveweight (a very conservative value) plus the grain yield and the manure. In the ten years of organic production, yields have increased and now his

Homeopathic nosodes: a special category of remedies prepared from diseased material. Nosodes prepare the animal for coming into contact with the disease.

On coccidiosis

“Another parasite that is big on the list for Canadian shepherds is coccidiosis. It is not a gastrointestinal nematode but a protozoan. It has the potential to cause a lot of scouring, unthrifty lambs and even death losses. These parasites destroy the intestinal lining and starve the lambs to death. All sheep carry and shed these organisms but adult sheep seem to acquire immunity against them.

“There is hardly a conventional shepherd left who does not use medicated mineral mix or feed to control coccidiosis. The coccidiostats (i.e. Rumensin, Deccox or Bovatec) are all antimicrobials and are not allowed in organic lamb rearing. But with good husbandry, coccidiosis can be avoided successfully. We had to learn that the hard way in the year we went on an extended family vacation and left the flock set up in eight-day grazing blocks. The weather turned wet and conditions turned muddy—ideal for coccidiosis.

“The key is to know the lifecycles of your opponents. After the eggs (oocysts) of coccidiosis organisms are shed in the feces, it takes them five days to become infective again. Having learned that, we switched to three- to four-day block grazing. Under wet conditions, the problem (scouring lambs and a couple of deaths) cleaned up within ten days. No medication, as the veterinarian had suggested after his diagnosis, just a change in husbandry.”

—Chris Boettcher

soybean and forage yields are equal to conventional production in the area; wheat is at 70% of conventional yield but the input costs are much lower. Most of the lambs are sold, starting in September, as 43–54 kg (95–120 lb.) liveweight directly off forage grazing. The butchers appreciate a slow-fed but heavy carcass.

In 2005, half of the farm’s lamb crop was sold in the conventional market. A year later the organic market took three quarters and the demand for organic lamb is still increasing.

Since moving to the clean pasture system and moving the flock though the farm fields for eight months of the year, Chris has found that losses are much lower. Lamb mortality is less than 5%, and there are no scours or pneumonia. He has stopped vaccinating with Glanvac 6 for diseases and instead

uses homeopathic nosodes in the water for caseous lymphadenitis, enterotoxemia and tetanus. Walking in the flock twice a day makes for calm animals that are easy to move.

“There is a lot of wisdom in

nature and a definite purpose in its design,” says Chris. “It is up to us to work with nature—not against it. What is the purpose of the odd weed in a crop of oats or a low intestinal worm presence in a flock of sheep? If anything it keeps us farmers on our toes and we continue observing ecological relationships and improving our husbandry skills! Farming in this manner is very rewarding. After all, providing ecologically produced, quality food for our fellow human beings should be our ultimate goal as farmers.”

Anne Macey is the editor of COG’s Organic Livestock Handbook and a contributing writer for COG’s new publication Living with Worms in Organic Sheep Production. She is also working with the Animal Welfare Task Force and OACC to develop educational materials for organic livestock producers.

This is an excerpt from Living with Worms in Organic Sheep Production published by COG, 2008. To buy a copy of the book, see page 35, www.cog.ca or call 1-800-375-7383.

MOUNTAIN PATH
Certified Organic and Natural Products Distribution

— Organic Stone Milled Flours, manufactured on site since 1982 —
— Bulk and Prepackaged Products —
— Selling Relations, Bakeries, Restaurants & Buying Clubs —
Call Us! 812-989-2873

Distributor for:
Coccol Demini
Globe
Framin-Natural Brands
Good Health Chips
Spectrum Oils
Stash Tea
Utopia and many more

1000 Poplarville Road, Benton, KY 40013 | 1000 Carleton Place, Toronto, Ontario M1W 1A7
Email: info@mountainpath.com | www.mountainpath.com