

Internal Parasite Management in Sheep



—Ulf Kintzel

We are in the midst of summer and it happens to be the time when sheep are affected the most by internal parasites. Internal parasites such as worms are a major economical factor in a sheep operation. Managing them has become more difficult over the years due to increased resistance to de-wormers. The search for new ways of dealing with internal parasites is in full swing.

Poor management of internal parasites can lead to loss of income and in many cases to the death of sheep and lambs. However, one cannot eliminate them. Creating a worm-free flock is impossible.

BARBER POLE WORM: The barber pole worm (*Haemonchus contortus*) is the deadliest of all sheep worms and is most widespread during the height of the summer. A sheep has four stomachs: three fore-stomachs and the “true” stomach, the abomasum. Thousands of these worms sit in this true stomach sucking blood. Infestation with the barber pole worm leads to anemia, loss of weight, damage to the stomach, and can cause death in adult sheep and lambs. Anemia and sometimes a bottle jaw (a swelling under the lower jaw) are the clear symptoms of an infestation with barber pole worms. An autopsy of a sheep that dies because of the barber pole worm will most likely have holes in the true stomach.

In the past, veterinarians suggested regular de-worming with Ivomec in a six-week interval. That approach has caused a lot of resistance and immunity of these parasites to de-wormers. This resistance and immunity in return has forced sheep farmers to look at a different approach in managing this worm.

First and foremost, controlling internal parasites means pasture management. If you practice rotational grazing versus set stock grazing you will already enormously reduce parasite pressure. The barber pole worm’s reproduction cycle is three weeks. If the rotational schedule is greater than three weeks, that cycle will be broken. Most of the worms climb only a few inches up on the

grass. That means leaving long enough forage residue, which is for various reasons desirable in a rotational grazing system anyway, reduces intake of worms.

Another step towards managing this worm effectively is the selection for resistance against this worm in your flock. Research suggests that 20 percent of your flock creates 80 percent of your problems. These 20 percent of your sheep that are more susceptible to the worm keep contaminating the pasture even after de-worming. You will need to cull sheep that are showing repeated signs of being affected by the worm at a time when it shouldn’t be, i.e. right after de-worming. These sheep may otherwise be very productive and maybe you have other reasons to cull sheep as well. That makes it at times hard to cull these sheep and yet maintain the number of breeding ewes. I know, I have been in this very situation. Culling a ewe that appears perfectly all right and is productive is at times a tough choice to make. However, without culling susceptible sheep you will not increase the level of resistance in your flock.

Last but not least, choosing the right de-wormer is also very important. What most people don’t know and what even many vets don’t know is the fact that the barber pole worm tends to be resistant against any white de-wormers. Safe Guard, Panacur, Valbazen, and Synanthic are mostly ineffective against it. I found that out many years ago when I lost several sheep and lambs due to the barber pole worm despite treating the flock with Valbazen. I was then told by a vet specialized in sheep that I ought to use a de-wormer that is not white. The dying came to an abrupt end when I de-wormed the flock with Levasole.

Levasole (also under the brand name Prohibit), Ivomec and its generic brands, and Cydectin are effective against the barber pole worm if they haven’t been used extensively in your sheep. One needs to be very careful with the use of Ivomec, although it is likely to be the one your vet will recommend. Barber pole worms in sheep and goats built extremely fast resistance against this de-wormer. Here is why: Worms that survive the de-worming with Ivomec developed immunity against this de-wormer. When an immune worm mates with another susceptible

worm, all of their offspring is immune as well. So, this immunity spreads very fast. If a sheep is treated with Levasole or Levamisole and the surviving immune worms pair with susceptible worms, all their offspring is again susceptible. These dynamics lead to a much longer time during which this de-wormer is effective. In a private conversation I was told that Cornell University assumes



about 20 years before the barber pole worms in a flock are resistant against Levasole. Currently, Levasole under the brand name Prohibit is unavailable because a company that produced one of the ingredients went out of business. I am told that it will become available in the future again since the producer found a substitution for the company that went out of business.

A third effective de-wormer is Cydectin. In the US, Cydectin has not been on the market for very long, but in Europe it has been available for years. Those countries already report resistance against this de-wormer. So, a careful use is advisable to prolong its effectiveness.

The above described de-wormers are given orally, although some of them can be found as an injectable de-wormer. Pour-ons are ineffective for sheep.

TAPEWORM: A different worm to be somewhat concerned about is the tapeworm. Adult sheep are immune to it. In lambs and in some young adults it can cause significant weight loss, but it rarely causes death. The diagnosis whether or not the lambs have tapeworms is very easy. The segments that an adult tapeworm sheds are clearly visible in the manure.

The tapeworm is immune to all aforementioned “clear” de-wormers (Ivomec, Levasole, and Cydectin). In my opinion, the most price-effective de-wormer available that kills tapeworms is Valbazen. Synanthic, as well as Panacur, are effective too unless your specific flock is resistant to it. Safe-Guard does not list the tapeworm as one of those that the medication kills. Yet, Safe-Guard and Panacur belong to exactly the same group of anthelmintics and are actually the same. However, I don’t know if there are still suppliers selling Panacur for sheep.

DE-WORMING: In the past, vets prescribed a six-week schedule for de-worming. However, there should be no regular schedule for de-worming although there are a couple of exceptions. Mostly, de-worming should be done on a need-to-do basis. I like to de-worm my ewes with Cydectin or Prohibit at lambing or just before lambing. This way the worm pressure on the pasture is reduced when it matters the most and when the ewes are the least capable of building immunity. I also like to de-worm the ewes again when the grass stops growing in the late fall/early winter when it gets cold or when I leave my farm and graze the sheep on neighbors’ fields. This way I get my ewes “clean” and the chance that they get re-infected right away is very low. (I say “clean,” but there is really no such thing as getting sheep actually parasite free.) The lambs get de-wormed for the first time when they are about six weeks old. That is when they need it the most. I use Levasole or, if tapeworms are present, a Levasole/Valbazen mixture. Usually, the ewes do not get de-wormed at that time.

In a dry year I try to wait it out and don’t do any further de-worming until the fall. Or I just de-worm the ones that seem to be infected. In a wet year the worm pressure may become so



much that both ewes and lambs need to be treated again during the summer. Most often, I use Levasole. The substitute of choice is Cydectin.

There is no need to immediately de-worm when you see the first signs of an infestation, assuming you are able to see the first signs. Waiting a while will help challenge the immune system of the sheep. Unchallenged immune systems cannot build resistance.

Secondly, more hatched eggs means that you kill more adult worms when you take action a little later. On the other hand, waiting too long will make the sheep suffer, will lead to losses, and will affect the sheep’s growth. It is a balancing act.

The means to de-worm my sheep are my chute, my dog, and my drenching gun. The dog moves the sheep from a holding pen into the chute which is closed at the far end and makes them move up so there is little to no space in between any two sheep. (A second person can replace the dog if you don’t have one. Children can be a great help here. However, my kids are not convinced that this is a chore. They insist that this is a paying job.) When the chute is full, I close it at the end and walk through the chute from the front to the rear and de-worm as I walk through. It is important that the chute is narrow enough that no sheep can turn around. Then I empty the chute by opening the front and letting the sheep go into another holding pen, followed by refilling the chute.

COCCIDIOSIS: A third problem can be coccidiosis. Coccidiosis often causes diarrhea and thus dehydrates the affected lambs and sheep. Weight loss is certain, and death can occur. This often occurs in the months of July and August. I put Di-Methox or the like in drinking water. Dr. Jeffers at Jeffers Livestock recommended adding some Jell-O powder to the mix to reduce the bitter taste of it. I found that suggestion to be effective. The treatment has to be done for five consecutive days. Fortunately, because of the dehydration, the diarrhea causes the ones who are dehydrated to be thirsty enough to drink the bitter brew.

None of the methods of management I recommend will stand alone. These methods used in concert are the key to successfully suppressing internal parasites. Over the years I have reduced the impact of worms in my flock to the degree that it is not an economic issue anymore. The key word is “managing” worms. It is an illusion to assume they can be eliminated. That has been tried for many decades and the result is worms that are resistant to de-wormers. 

Ulf Kintzel is a native of Germany. He moved to New Jersey in 1995 and in 2006 to Rushville in the Finger Lakes area in upstate New York. Ulf owns and operates White Clover Sheep Farm. He breeds and raises grass-fed White Dorper Sheep. His website address is www.whitecloversheepfarm.com. He can be reached by e-mail at ulf@whitecloversheepfarm.com or by phone at 585-554-3313.