



Internal Parasites

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What are internal parasites? They are just “WORMS”! Sheep producers across the United States are seeing both economic and production losses. Internal parasites are recognized as the most prominent sheep disease. Sheep that become infected may become ill or even die. They may become lethargic, have diarrhea, lose weight or just maintain their weight. Sometimes these signs may go undetected. Internal parasites infect the gastrointestinal tract, liver, lungs, blood system, lymphatic system, and skin.

Life Cycles

Every flock in the United States has some parasites. There are several main parasites that invade sheep.

- *Haemonchus contortus* (barberpole worm)*Ostertagia* (round worms including stomach worm, Cooper’s worm, wire worm, hookworm, threadworm, whipworm, and nodular worm)
- *Trichostrongylus* (lung worms)
- Tapeworms
- Coccidiosis

Sheep ingest these parasites while they are on pasture or even in the confines of your barn. You may ask how are they picked-up? The adult worm is living in the host’s abomasums, one of the parts of the stomach, and lays eggs in large numbers that are then passed in the manure. At this point, the eggs need to develop and hatch. This could take from five days to several months. These larvae will develop in the conditions that we all have (warm and wet). Parasitism is more of a problem in the spring when we have ideal conditions. However, we do see problems during other times of the year when the weather permits. Prior to these larvae becoming mature they are ineffective. However, once they hatch they need to be ingested by the sheep to complete the life cycle.

The larvae are not very mobile. They need rain to basically splash them onto blades of grass in the pasture. If your sheep are forced to graze the pasture close this will usually increase the number of larvae ingested. As one might think the larvae are highly concentrated in the area close to the ground.

Once the larvae are eaten it takes approximately 2 weeks for *Haemonchus contortus* to become an adult and then begin to lay eggs. However, *Ostertagia* and *Trichostrongylus* take approximately three weeks to develop and begin to lay eggs. You may wonder “Why do I need to know these time periods?” Well, this is important when you are developing a strategic parasite control program. Some larvae become dormant and wait to develop. At this stage some larvae become protected from some de-wormers.

Damage is caused by any of these parasites at any time. The first damage is caused by the larvae in the stomach, where they damage the gland cells. *Haemonchus* is a blood-sucker that removes considerable amounts of blood from the host. These larvae remove large amounts of blood sometimes faster than the host can replenish. This will ultimately result in death.

By the time any of the fore mentioned symptoms are visible a lot of damage has occurred. It is very important to consult a veterinarian for proper diagnosis. Many of the symptoms that result from parasites are the same symptoms of many other diseases.

Coccidiosis is somewhat different from most parasites because infection is direct from an egg-like stage called an oocyst. It is also picked up during grazing or in the barn. Coccidiosis is a major cause of poor feed efficiency and poor growth. The parasite is normally present in all ages of sheep, but affects younger animals the most. It often shows clinical symptoms when the animals have been stressed in some way, including changes in the weather.

Parasite numbers on pastures

When are my pastures most likely to infect my sheep with parasites? Do the larvae over-winter? These are just a few questions that you may be asking.

The highest number of larvae are present in the pasture when the climate is most suitable for survival. If the weather has been warm and damp, the larvae numbers are going to be high.



On the other hand if the weather has been hot and dry for a number of days then the numbers are going to be low.

As for the second question, yes the larvae sometimes do over-winter. It has been found that some larvae can survive if the winter is not real harsh. Thus, when the pasture starts to become green and you are ready to let the sheep out to that lush pasture, you may be turning them into a field of new larvae. This is why you should be on a good deworming program that would be specific to your farm. In addition, larvae may over-winter in sheep in a dormant stage if parasites are not eliminated in late fall with a broad spectrum deworming product.



Parasite Detection

The best way to determine what parasites are infecting your sheep is to have your veterinarian check a manure sample. He can then tell what parasites are infecting your sheep as well as at what level and what product to use to treat your sheep.



You can also check your sheep for anemia by looking at their gums and the conjunctiva around the eyes. Both places should be bright pink to red in color. If the gums or conjunctiva are pale pink or gray, then the sheep is showing signs of anemia, which is an indication that you may need to deworm. Coccidiosis is often a cause of loose bowel movements and will show up as animals with dirty rear ends.

Control programs

Many producers have always used dewormers. Some of the larvae may have become immune to the treatment. So what can you do? First you need to have a good game plan. You should be able to identify what parasite your animals have through fecal examination, know what products to use to control them and understand how to manage grazing to decrease the chance of infection.

I feel that the third one listed is very important. If you manage your pastures and utilize good management practices you will not have a large infestation of larvae. Grazing management involves moving sheep between several pasture areas, maintaining forage in the pastures in a vegetative or growing condition, and moving animals out of one pasture when it has been grazed down to an appropriate level. Orchardgrass and fescue should be grazed when the plants are between 3 inches and 10 inches tall. Bluegrass and clover should be grazed when the plants are 2 inches to 5 inches tall. During the hot and dry summer months, sheep tend to pick up fewer parasites because the larvae cannot survive for long without moisture.



A good rule of thumb for strategic deworming is to start a few days before turning sheep out to pasture in the spring and then follow up with another deworming several weeks later. Another strategic time to deworm is right after a hard frost in the fall. This will “clean them out” for the winter. The sheep won’t become reinfected without warm, moist weather conditions.

Throughout the summer you will need to monitor the flock and deworm as needed. Some producers will treat all animals including new lambs down to just a few days old. Other producers will follow the FAMACHA program whereby they only deworm sheep that warrant treatment based on an eye color guide. Check the product label for any restrictions such as pregnancy, age, or withdrawal periods.

Deworming Products

Ivomec (ivermectin) This is a broad-spectrum deworming product that controls a wide range of internal and external parasites. Be sure to use the drench formulation for sheep because sheep do not absorb the injectable cattle formulations properly.

Levasole or Tramisol (levamisole) This product is effective against major nematodes, including lungworms. Either product is available as a bolus (large pill), injectable, or drench powder.

Valbazen (valbazen) This is a broad-spectrum product that is effective against liver flukes, stomach worms, tapeworms, intestinal worms, and lungworms. The product is available as a drench.

Safe-guard (fenbendazole) This product is not approved for use in sheep, although many producers use it in young animals to control lungworms, stomach worms and intestinal worms. The product will also control tapeworms when the dosage is doubled.

Corid (amprolium) This product is used to treat sheep for coccidiosis. This product is available as a solution or as a powder. Both can be mixed with drinking water as a preventative treatment or a control treatment. The treatment period is for five days for both prevention and control.

Controlling internal parasites in any animal is a challenge. Work to deworm strategically so that you can prevent large infections and rotate deworming products to prevent a build-up of resistant parasites. Be diligent in your deworming efforts and occasionally check stool samples to check the effectiveness of your deworming program.

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