



Parasite Control In Sheep & Goats

By Rob Wilson D.V.M.



Spring time is finally here in full swing with warmer weather, green pastures, and unfortunately, spreading parasites!

As veterinarians, a very high percentage of the disease we see in small ruminants is parasite related. For those of you who have raised sheep and goats for years, your first reaction when you see a thin or sick animal may be to deworm it, and this is often a good idea. Yet, in light of growing parasite resistance to dewormers, we need to do more than just haphazardly use the deworming products that have worked for us in years past. Changes in weather, stocking density, or in the management of a flock or herd will change the needs of a parasite control program from year to year. Combining management practices and flock or herd surveillance with a targeted use of dewormers will help you to raise healthier animals, slow dewormer resistance, and prevent you from spending money on dewormers that are not working or not needed. Contained in this newsletter are general guidelines for prevention and treatment of small ruminant internal parasites which along with specific advice from your veterinarian can be used to build a control program that is best for your animals. At the end of the news letter is information about our up coming Small Ruminant Parasite Control and FAMACHA Training Seminar.

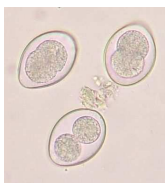
Internal Parasites- Nematodes

When most people think of deworming sheep and goats it is for stomach worms, more correctly called nematodes. These are the ones spreading on your pastures right now. Three of the most significant nematodes that infect sheep and goats include *Haemonchus contortus*, *Ostertagia circumcincta*, and *Trichostrongylus colubriformis*. The type of nematode infection can vary from farm to farm and since parasite control methods vary with the type of nematode, it is important to identify the specific parasites that are common to your animals.



Understanding the life cycle of this broad class of parasites is important in developing control methods. In general, the nematode life cycle consisting of an egg, four larval stages, and an adult. The eggs are passed in the sheep or goat's feces. A first stage larva hatches from the egg, feeds on fecal bacteria, and then molts into a second stage larva. This second stage larva continues to feed on fecal bacteria until it molts into a third stage larva. At this point the third stage larva can no longer feed on bacteria, but it becomes weather resistant and able to infect a sheep or goat. It may take as little as 3-5 days for the noninfectious egg to mature into the infective third stage larva. The third stage larva depends on moisture to dissolve the fecal material and allow it to move onto a moisture film, such as dew, that covers plant material. When the grazing sheep or goat ingests the third stage larva, it molts yet again into a fourth stage larva, and then finally matures into an adult at which time it can produce eggs and start the cycle again. Nematodes can survive over winter on pasture or as dormant larva in the small ruminant's gut (in a state called hypobiosis). Though first and second stage larva are easily destroyed by harsh weather conditions, third stage larva can survive a long time in cold weather (up to 6 months) and snow does not kill larva.

Weather plays an important role in how quickly the parasites move through their life cycle. Parasite larva only leave fecal material to contaminate pasture forage under moist conditions. Because of this animals pick up fewer parasites during a drought, but will often be exposed to a very high load after the first rain. Third stage larva don't survive as long in warmer weather (about 30 days) since their metabolic rate is increased and unlike earlier larval stages third stage larva can't feed on fecal bacteria.



Internal Parasites- Coccidia

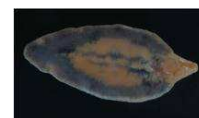
These are the parasites that typically affect the young lambs and kids (3 weeks to 6 months) who are not out on pasture being exposed to the nematodes discussed above. Typically the lambs or kids housed in the barn and on a bedded pack who are experiencing poor growth and intermittent diarrhea are the ones we suspect coccidia infections in. Coccidia are protozoan parasites which colonize the gut. This type of parasite is primarily a concern only to young lambs and kids, as older animals generally are immune to coccidian. However, older animals can spread coccidia to younger animals. Hay fed on the ground as well as fecal contaminated feeders and waters are the major source of infection.

Treatment for coccidia infections is typically with Corid or sulfa drugs. The conventional dewormers used to treat nematode infections do not control coccidia.

Prevention is accomplished through a combination of cleanliness and feeding coccidiostats (coccidian growth inhibitor). All starter and grower rations for lambs and kids should have one of three coccidiostats in it- Rumensin, Bovatec, or Decox.

Other Internal Parasites- Tapeworms, Liver Flukes

- Tapeworms rarely cause clinical disease, but are often the easiest parasite to see in fecal pellets and may be mistaken for nematode eggs by untrained observers. The unsightliness of tapeworm segments in a show goat's fecal pellets is often a greater concern than any ill affects on the animal's health.
- Liver Flukes are generally found only in certain parts of the country and in animals pastured on wet, swampy areas. Liver flukes are rarely seen in our practice area.
- Both tapeworm larvae and liver flukes can occasionally migrate through organs such as the liver causing lesions that secondarily get infected with clostridial bacteria. These clostridial infections are very quickly fatal.
- Ivermectin plus and Valbazen are the only small ruminant dewormers effective against tapeworms and liver flukes.



Parasite Control Program

To many goat and sheep owners parasite control simply means deworming every so often. Yet, the frequency of severe illness and death from internal parasites that we see in the goats and sheep within our practice each year clearly demonstrates that internal parasite control is not a simple thing. The worm burden of each herd or flock can vary tremendously as the environment, stocking density, deworming history, herd genetics, introduction of new animals, herd nutrition, and parasite resistance to dewormers is different from farm to farm. The most effective and profitable parasite control program is one that is tailored to your herd or flock's specific needs using the following principals:

Monitoring For Parasites: Are you treating for something that isn't there? Is an unseen problem running out of control?-

- Routine examination (body condition & eye lid color)
- Fecal floats, larval culture, fecal egg reduction tests (to determine what parasites, how many, and if resistance is occurring)

Measures To Limit Exposure To Infective Parasites:

- Feed animals off the ground & Keep waterers and feeders free of fecal contamination
- Strategic Pasture rotation & Animal grouping- keep high risk animals (young or pregnant animals) separate and treat according to their different needs

Appropriate use of antiparasitic drugs:

- Correct dosing- never under dose dewormer
- Appropriate rotation- rotate semi annually or annually instead of at each deworming
- Targeted application- Maintaining a population of worms susceptible to dewormers

Select for parasite resistant animals:

- Record animals that frequently need deworming and possibly cull these chronically thin animals.

Of course practically applying these principals is complicated, so make sure you utilize your veterinarian. Feel free to contact Dr. Rob Wilson or any of the other small ruminant veterinarians at the Perry Veterinary Clinic for help developing a parasite control program specific to your farm. Additionally, be sure to take advantage of the small ruminant parasite control and FAMACHA training seminar to be held June 18th as described at the end of the news letter.

Treatments for Internal Parasites

Most dewormers used to treat internal parasites are unfortunately not labeled for sheep or goats. Even those dewormers that have a sheep or goat label often are not effective at the labeled dose which promotes parasite resistance. This forces us to use dewormers in an extra label manor which by law requires a veterinary-client relationship. Before deworming this year we encourage you to contact your veterinarian to make sure the dosage and withdrawal times you are using are appropriate. Better yet, attend the Small Ruminant Parasite Control Seminar June, 18th where we will be discussing specific dewormers, their dosages, and withdrawal times.



Small Ruminant Parasite Control and FAMACHA

Training Seminar presented by Rob Wilson D.V.M.

To be held **Saturday June 18th at 2pm at the Perry Veterinary Clinic Large Animal Store** & Refreshments will be provided

If any of the information in this newsletter interests you, be sure to attend this seminar where we will be able to provide you with much more detail and specifics. This seminar will also serve as a training seminar for those interested in becoming certified to use the FAMACHA system. This parasite control program is one that combines the principles of monitoring parasite induced anemia by eye color, strategically deworming only the heavily infected animals to minimize dewormer resistance parasites, and the selection of parasite resistant sheep and goats. The FAMACHA system is just part of the seminar and you do not need to be interested in this certification to attend.

For those who do wish to complete the FAMACHA certification, it is required at some point after the seminar (within the coming year) that one of the Perry veterinarians observes you correctly using the eyelid anemia chart or card on your own animals. At that point you will receive your certificate and FAMACHA card. Boeringer, who is helping to sponsor the meeting, will be covering the cost of the FAMACHA card and information packet (normally \$15) for those obtaining certification through this meeting. Individual, on farm FAMACHA training is always available for those who can not make the seminar, however, this training and certification will be at the standard rate. So please take advantage of this great opportunity. We look forward to seeing you June, 18th! **PLEASE RSVP TO PERRY VET @ 969-9115 by Friday June 17th.**

A copy of all newsletters from the Perry Vet Clinic are available at:
www.perryvet.com

We are happy to add anyone to the newsletter mailing list who might benefit—please contact the clinic.

To place a farm supply order:
Phone: (585) 969-9120
Fax: (585) 237-5544

Or, visit the Farm Store
at the Perry Vet Clinic
Mon-Fri 7am - 5pm
Sat 7am - Noon

