Tips for Farmers: Parasite control in ruminants

By Nick Pairitz
Soil Conservationist, NRCS-Maine

SKOWHEGAN, Maine (Oct. 18, 2016) – Cattle, goats and sheep are a few ruminants commonly seen around pastures in Maine. A ruminant is an animal that has a highly efficient digestive system that extracts nutrients from plants via fermentation prior to digestion. You may notice that these animals often have their head down in the grass doing what they do best… grazing.

Potential parasite infection is an issue that needs regular attention for managing healthy livestock. Often, the approach of parasite control is treatment rather than prevention. In the spring rush, livestock are sometimes put onto pasture with little forethought regarding the presence of parasites within the herd or in the pasture. Decreased carcass quality, weakened immune system and a lower profit margin are some of the effects of parasites. Studies have shown that parasites negatively affect beef cattle gains up to 48 lbs. during a grazing season.

The brown stomach worm (Ostertagia ostertagi), barber pole worm (Haemonchus contortus) and bankrupt worm (Trichostrongylus axei) are just a few parasitic worms found in Maine cattle, goats and sheep. Whether these parasites are multi-species or species-specific, they are transferred to the host in the same manner. After being deposited in the manure (up to 10,000 eggs a day are spread this way), the eggs or cysts of parasites take 4-6 days to develop into infective larvae. With aid from water (irrigation, rain, dew), the larvae move upwards approximately 4 inches above the ground surface to the leaves and stems of plants where they wait to be swallowed by a grazing animal.
If your herd/flock is exhibiting signs of a parasitic infection including weight loss, diarrhea, and abdominal pain (although these signs are not always or initially present) then deworming is necessary. Dewormers are used for the treatment and control of internal parasites and there are several types available. Pour on, injectable and orally administered forms of dewormer are available at feed stores or through a veterinarian. The presence of parasites in animals can be confirmed or dismissed by a fecal float test, performed by a veterinarian. However, some producers may choose to administer dewormers profilactically. By repeated use of the same type of dewormer on an entire herd/flock, one is selecting for parasites which are resistant.

Dave Scott, NCAT livestock specialist, has found that a good rule of thumb when approaching parasitic treatment is “20 percent of the animals carry 80 percent of the parasites.” A proven way to prevent parasite resistance from developing is by creating “refugia.” Refugia are an isolated population of organisms that remain. For example, if a producer was to treat an entire cattle herd, then only the resistant parasites are left to reproduce and repopulate within the herd. However, if that producer were to treat only the sickest animals and leave the remaining animals untreated, a refugia of parasites which are not resistant will remain. If parasite populations become evident one more, then select only the sickest animals for a second treatment. This will promote a majority population of parasites that are susceptible to dewormer, as opposed to creating a parasite population that is entirely resistant to a specific dewormer.

Another option that can be used with or without dewormer is grazing management. Having a grazing plan in place before the growing season provides a framework from which you can make adjustments as needed. A good rotational grazing plan includes moving animals frequently enough that they are not grazing to a height where parasites are present (4 inches) and a rest/recovery period of at least 30 days. Rest/recovery period is adjusted based on the plant species you are managing for and the parasite cycles you are trying to break. To avoid the larval stage of these parasites, paddock size can be adjusted so that animals are moved every four days. When following a good rotational grazing plan, dewormer use is expected to decrease, oftentimes significantly.

Proper grazing management is based on balancing your animals, plants and goals. Here is a real life example of a sheep rancher who had to adjust his grazing plan to meet his goal of parasite reduction: The rancher was trying to reduce worm pressure via rotational grazing in his 230 ewe flock. He came up with a grazing system where the sheep moved back onto a paddock after it had 20 days rest, but he did not see any parasite reduction. He then looked into the particular parasite affecting his sheep (barber pole worm) and discovered those populations near their maximum at Day 20! He then adjusted the rest period to 30-35 days, and has seen a significant reduction in
worms. The producer has reduced dewormer use by 84 percent and increased lamb average daily gain an average of 0.63lbs./day. His net profit has increased as a result of increased average daily gain and reduced wormer costs.

Points to Remember:

- Incorporating grazing management into an operation will provide economic return
- Maintain grazing heights of 4 inches or greater
- Move animals to a new paddock before parasites enter infectious stage
- Allow parasites to complete their life cycle and die before regrazing
- Know what you are treating before you select a dewormer
- Selective use of dewormer will induce less parasite resistance

Every parasite control scenario is different and must be addressed individually. The effectiveness and economic return of each option varies with the herd, weather, available resources and managers’ goals.

Stop in to the Skowhegan Natural Resources Conservation Service (NRCS) office at 70 East Madison Road and speak with Ron or Nick if you would like to learn about grazing management or look at alternative ways of managing your operation for increased animal, plant and environmental health.

Somerset Co. Natural Resources Conservation Service (207) 474-8324, ext. 3

###

*USDA is an equal opportunity provider, employer, and lender*