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Livestock Health Series

Coccidiosis in Sheep and Goats

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Introduction

Coccidiosis is a common gastrointestinal disease among sheep and goats with young animals between 1-4 months of age being the most susceptible. The disease is caused by a tiny single-celled parasite that is not to be confused with intestinal worms. In small ruminants, coccidiosis is caused by organisms from the *Eimeria* genus. Coccidial organisms are host-specific, meaning they do not cross species, so *Eimeria* species that infect goats will not infect sheep and vice versa.

Kid with signs of potential coccidia infection. Notice the messy butt, weight loss and unthriftiness. Photo courtesy of Susan Schoenian.

Coccidia oocysts (eggs) are passed through the feces. Once outside of the animal, they sporulate and become infective. Coccidia thrive in warm, moist environments making weaning an ideal season for lambs and kids to become infected. Sheep and goats ingest infective coccidia via udders and/or teats, feed, forages, hay, drinking water, bedding, and/or feeders that have been contaminated with infective feces.

Signs and Symptoms

The typical indicator of sheep and goats being infected with coccidiosis is diarrhea. Other symptoms may include unthriftiness, loss of appetite, dehydration, weight loss and abdominal pain. Those who show sheep or goats may notice a lack of weight gain especially if they are weighing them regularly. This could be a sign of coccidiosis. Fecal samples can also indicate an infection of coccidiosis, but fecal analysis should not be the only consideration for treatment. Sheep and goats may have symptoms while having low fecal counts due to the cyclic nature of shedding the oocysts in feces. Moreover, sheep and goats may show no signs of coccidiosis, but have a high fecal count because they have a healthy immune system that can keep the organisms from causing disease. Fecal analysis combined with physical symptoms will help in making important treatment decisions.

Treatment and Prevention

Coccidiostats are the most common form of treatment and prevention. They come in both a liquid and feed form. Amprolium is a liquid

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Goat with obvious signs of diarrhea which is a typical indicator of coccidiosis. Otherwise, the goat looks healthy. Photo courtesy of Susan Schoenian.

coccidiostat that can be mixed in the drinking water as a preventative or given orally as a treatment. It is important to note that the use of amprolium would be considered extra-label use as it is not labeled for use in sheep or goats. Coccidiostats that are fed via grain or mineral include decoquinate (labeled for sheep and young goats), lasalocid (labeled for sheep in confinement), and monensin (labeled for goats). It is imperative to feed the right dosage to ensure adequate prevention. These fed coccidiostats are best used as a preventative when creep feeding young sheep and goats and to pregnant does and ewes prior to lambing and kidding to limit environmental contamination.

Sulfa drugs are also commonly used to treat coccidiosis and come in liquid, powder and bolus forms. They are also not labeled for sheep and goats. It is vital to work with a veterinarian and establish a veterinarian-client-patient relationship especially when dealing with coccidiosis as most treatments are considered extra-label.

It has also been found that forages high in condensed tannins, namely *Sericea lespedeza*, can help with prevention as a natural alternative. Studies indicate that the condensed tannins act as an inhibitor to internal parasites. *S. lespedeza* is a warm season forage and can be fed as is, as hay or as pellets. If utilizing *S. lespedeza*, producers should feed prior to and during weaning (approximately 4-6 weeks total) in order to fully reap the benefits. Some studies have noted that long term use of *S. lespedeza* may be associated with mineral deficiencies. A good mineral program has free choice, loose mineral available at all times.

Environmental stressors play a major role in coccidiosis infections. Best management practices, such as not overcrowding animals, maintaining sanitary conditions, minimizing stress and feeding coccidiostats to pregnant ewes and does prior to lambing and kidding are great preventative measures for keeping coccidiosis at bay. Lambing and kidding jugs should be cleaned and sanitized before lambing and kidding season and between each female to prevent the spread of infective coccidia oocysts. Grain and hay feeders should be raised off the ground to prevent fecal contamination. Since coccidial organisms thrive in wet environments, it is important to keep areas where sheep and goats commonly congregate (feeders and waters) dry. It is a wise practice to utilize creep feeding to gradually introduce grain into lambs' and kids' diets before weaning. This will allow for a less stressful environment when they are fully weaned from their dam and provide an opportunity for the lambs and kids to be treated with a coccidiostat in feed to prevent coccidiosis during the transition from milk to feedstuffs.

Healthy sheep and goats allow an operation to thrive. Selecting animals with proven genetics for health and thriftiness as replacements for your flock or herd is critical. Culling animals that continually fight coccidiosis is also a beneficial management tactic. By knowing the signs of coccidiosis, conducting best management practices, and making wise selections in which animals to bring onto the farm and which animals to remove from the farm, a producer can cultivate and maintain a successful operation.

Microscopic view of coccidia oocysts at 400 x power. Photo courtesy of Eva Wray.

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