Coccidiosis in Goats and Sheep

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There are numerous diseases that sheep and goat producers should be aware of but coccidiosis is one of the most common and also most detrimental to small ruminant production. Coccidiosis is a parasitic infection caused by the protozoan organism coccidia. Not all species of coccidia are disease-causing. Some are also species specific, meaning that a cocci that will make a goat sick will not affect sheep or cattle and vice versa.

The appearance of clinical signs of coccidiosis depends on the number and species of coccidia in the host, the conditions of the host, such as age, stage of production, health condition and breed, and environmental conditions such as climate or stress. Animals do eventually develop immunity to coccidia, but it takes time, so young animals are more susceptible to infection and disease. Adults may have coccidia as part of their residential gut microbes, showing no sign of illness or disease, but act as source of infection for their offspring.

The life cycle of coccidia is complex causing damage to intestinal cells at multiple stages. The cycle begins with the oocysts being passed in the feces of an infected animal and ingested. Once inside, the parasite invades cells, reproduces, and invades more cells. A single oocyst can be multiplied many times and cause a great deal of damage to intestinal cells before coccidia is detected in the animal's feces. In fact, animals may die before showing any signs of coccidiosis if a high number of oocysts are ingested at once in a young or stressed animal. With a more gradual exposure, the animal will develop resistance that will slow the rate of coccidial reproduction in their intestinal tract. This resistance usually does not develop before 5 or 6 months of age. After resistance is built, the animal will still develop infections and shed coccidia in its feces, contaminating the environment, but will generally show no signs of illness.

Young animals (3 weeks to 5 months old), having crowded, wet and unsanitary conditions, and stress all contribute to clinical coccidiosis. To keep coccidiosis to a minimum on your farm, make every effort to reduce stress on your animals and improve sanitation practices. Keeping clean, dry bedding where mothers and babies will be laying helps to reduce the risk of coccidiosis in the young animals. Regularly cleaning and disinfecting water and food troughs will lessen exposure to coccidia. Also keeping stress on animals as low as possible will help keep immune systems running at top notch, allowing the animal to fight off and build resistance to a coccidia infection. There are several types of stress that can decrease immune function in an animal including, but not limited to, weather changes or extremes, transportation, weaning, nutritional changes or deficiencies, lactation and unsanitary environment. Any combination of these factors can contribute to coccidiosis in sheep and goats.

The first sign of coccidia that most people notice is runny diarrhea, often coating the hindquarters and tail. The animals may also show decreased appetite, listlessness, weakness and abdominal pain (displayed by crying or frequent repeated standing and lying). If the infection is not too severe the animal may be sick for a couple of weeks and then get better. However, if the animal has suddenly been exposed to a large dose of coccidia and have no immunity built up, they may quickly dehydrate and die. Although mortalities definitely have an impact on the profitability of a small ruminant production, the damage caused by a non-fatal infection can be even more costly. When an animal is infected and the parasite invades the intestinal cells, lesions are formed, causing long-lasting effects including general unthriftiness, poor growth rate, poor milk production and susceptibility to other disease and health issues.

As with any disease, an ounce of prevention is worth a pound of cure. If you find yourself with what looks like coccidiosis on your farm, you should always consult your veterinarian to confirm the cause of illness as well as devise a treatment plan. A coccidiosis treatment program may include the feeding of ionophores, treatment with sulfa drugs or amprolium, or the use of alternative treatments. It is important to use all medications as directed. Be sure to follow dosage instructions and withdrawal times. Rotational grazing and culling infection prone animals can also help improve herd health and minimize coccidiosis on your farm.

Coccidiosis is almost inevitable in a sheep or goat production but working on prevention and knowing what to look for in order to catch it early will hopefully keep your coccidia related losses to a minimum.