

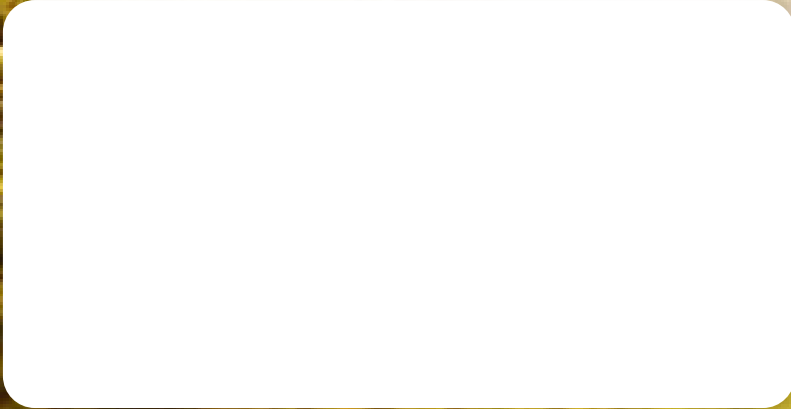
SINCE



1929

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SMALL RUMINANT EDITOR
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1929



SINCE

COCCIDIOSIS IN LAMBS AND KIDS

BY SUSAN SCHOENIAN

Coccidiosis is one of the most economically-important diseases of sheep and goats. It is caused by a single cell protozoan parasite of the genus *Eimeria*. With few exceptions, coccidia are host-specific. There is no cross-infection. In other words, even sheep and goats are affected by different species of coccidia. In addition, while sheep and goats are affected by many different species of coccidia, only a few are known to be highly pathogenic. The others do not cause disease or symptoms. At some point in their life, almost all sheep and goats are exposed to coccidia and shed oocysts (eggs) in their feces. Ideally, young lambs/kids are exposed to low levels of coccidia and develop immunity. As compared to worm parasites, resistance to coccidia develops at an earlier age. Disease only results when exposure to infective oocysts overwhelms the animal's immune system. Scours (diarrhea) is the most common symptom of coccidiosis, though it is not always present. Any time young lambs and kids are doing poorly and experiencing digestive problems, coccidiosis should be suspected. Coccidiosis is most commonly observed in young lambs/kids (1-6 months of age) being raised under intensive management conditions, usually confinement, but not always. Coccidiosis outbreaks can also occur in lambs being raised on pasture.

Sub-clinical coccidiosis often goes unnoticed, as clinical signs are not usually apparent. Diagnosis of coccidia is based on epidemiology (who, when, and where), clinical signs, fecal analysis, and postmortem exams. Fecal oocyst counts can be misleading, as clinical signs can be present with low oocyst counts and vice versa. The interpretation fecal oocyst counts is further complicated by the fact that not all coccidia species are pathogenic. A post-mortem is the most accurate method of diagnosis. Intestinal lesions are indicative of disease. Response to treatment can also be indicative of an accurate diagnosis.

Prevention Disease prevention starts with good hygiene, management, and nutrition. Coccidiostats can be added to the mineral, feed, water, or milk replacer to help prevent disease outbreaks. Lasalocid (Bovatec®) is approved for use in confined sheep. Monensin (Rumensin®) is approved for use in confined goats. Decoquinatate (Deccox®) can be fed to young, non-lactating sheep and goats. It is included in some milk replacers.

The effectiveness of coccidiostats depends on two factors: timing and dosage. Coccidiostats need to be fed early in the coccidia life cycle, before the onset of clinical signs (usually 3-4 weeks ahead of time). Coccidiostats must be consumed at sufficient (labeled) dosages in order to be effective. Consumption of coccidiostats by nursing lambs/kids can be a limiting factor.

Treatment Amprolium (Corid®) has been used to both prevent and treat coccidiosis in sheep and goats. Because it acts late in the life cycle, it is considered to be more effective as a treatment. Corid® is added to drinking water or administered as a drench. Sulfanamides (sulfa antibiotics) have also been used to treat coccidiosis in sheep and goats. Like Corid®, they are added to the drinking water or administered as a drench. Drenching is always better because sick animals often do not drink enough water. No drugs are FDA-approved to treat coccidiosis in sheep and lambs. Extra label drug use is required. While Corid® can be purchased over-the-counter, it is not approved for sheep and goats; veterinary involvement is required. As a result of the Veterinary Feed Directive (2017), antibiotics that are put in drinking water must be obtained from a veterinarian. Sulfa antibiotics must be purchased from a veterinarian and used according to their recommendations.

Natural control *Sericea lespedeza* has demonstrated effectiveness as a natural control for coccidia. Unfortunately, it is not widely available. The effectiveness of essential oils (e.g. oregano) is still being investigated as a potential natural control for coccidia. There is no vaccine for coccidia (for sheep/goats). There is some evidence that some breeds and individuals are more resistant to coccidia infections and that heritabilities are similar to nematode (worm) resistance.

Augusta Co-op Solutions Corid, 9.6% Solution, 1 Pint

The first and only product labeled for use as both a preventative and treatment therapy for coccidiosis. Has a unique mode of action to act on the first generation coccidia. Should be used on a group, pen or herd basis. Formulated for use as a true solution in drinking water or as a drench.



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FEATURED WEB RESOURCES

<https://www.youtube.com/user/SheepUSA1>

Visit the YouTube Channel of the American Sheep Industry Association (ASI). ASI is a federation of 45 state sheep associations representing the interests of more than 88,000 farm and ranch families nationwide with a common goal to promote the well-being and profitability of the U.S. sheep industry.

<http://yqca.org/>

Youth for the Quality Care of Animals (YQCA) is a national multi-species quality assurance program for youth ages 8 to 21 with a focus on three core pillars: food safety, animal well-being, and character development. YQCA certification is being accepted by many livestock shows and fairs that require youth quality assurance certification. View the list here, but always check the entry requirements of each show for complete details.

http://sanangelo.tamu.edu/files/2011/11/AngoraGoatsAShearDelight_1.pdf

Angora Goats: Shear Delight is an educational package for those interested in raising Angora goats. The 12-page publication is aimed towards new landowners interested in keeping a livestock enterprise, and persons who have inherited land and want information to re-enter the business.

<https://www.facebook.com/FVSUAnimalScienceExtension>

Fort Valley State University's Animal Science Extension Facebook Page is maintained by Dr. Niki Whitley, Animal Science Extension Specialist. Dr. Whitley works primarily with small ruminant production. She held similar positions at the University of Maryland Eastern Shore and North Carolina A&T State University before returning to her home state of Georgia.

<https://www.facebook.com/DSUSmallRuminantProgram>

Delaware State University's new Facebook page for small ruminants is maintained by Dr. Kwame Matthews, the new Small Ruminant Specialist. Dr. Matthews has a split appointment between research, teaching, and extension. He received part of his education on Delmarva, before going to Tuskegee University (in Alabama) to get his doctorate.

MASTITIS

Mastitis is the term for a bacterial infection in the udder. It is a common problem in sheep and goats, especially those that are intensively or semi-intensively managed. Heavy milking females and those nursing multiple offspring are most commonly affected.

Two bacterial species (Staphylococci) are responsible for causing most of the cases of mastitis in sheep and goats. Sore Mouth can be another cause, as nursing lambs/kids transfer infection to the teats. Poor milking technique and hygiene can be the reason for mastitis in dairy females.

OPP (ovine progressive pneumonia) and CAE (caprine arthritic encephalitis) are viral diseases that can cause a similar disease condition. In the case of OPP and CAE, the udder is usually firm and shapely, but it produces little to no milk. If both halves of the udder are affected, it is often OPP or CAE. If only one half is affected, it is usually mastitis.

There are two forms of mastitis: clinical and sub-clinical. Sub-clinical may be difficult to identify. However, it causes significant economic loss, as affected females produce less milk, sometimes not enough for all their offspring to do well. Elevated somatic cell counts (SCC) affect marketability of milk.

In clinical mastitis, the infection progresses to a point that symptoms are noticeable and usually require attention. Early symptoms might include limping and a reluctance to allow lambs/kids to nurse. Eventually, affected females will become feverish and go off feed. There may be physical changes to the milk and udder.

While most producers make a diagnosis based on observation of clinical signs, mastitis, especially subclinical, can be diagnosed with a micro-biologic culture of the milk. A milk culture can also identify the causative organism and appropriate course of treatment.

Providing good nutrition and a clean environment, especially during birthing and lactation, are the keys to preventing mastitis. Rations should be balanced to ensure that the nutrient requirements of females are being met, but not exceeded. Both underfeeding and overfeeding have been implicated as causes of mastitis. Proper management at weaning (drying off) is also important. Good udder conformation will help to reduce the incidence of mastitis. Females with pendulous, low hanging udders should be culled.

Mastitis is usually treated with antibiotics and anti-inflammatory drugs. The sooner treatment is initiated, the more likely it will be successful. No treatment protocols are FDA approved for treating mastitis in sheep and goats; therefore, producers need to work with their veterinarians on developing and implementing treatment plans.

While a ewe or doe is being treated for mastitis, it is often necessary to bottle or tube-feed her offspring. In some cases, the lambs/kids will have to be removed for artificial rearing. Females which suffer permanent damage to their udders should not be kept for breeding.

Females that only produce milk on one side of their udder should not be retained. Females with lumpy udders should be culled. Mastitis is often a confounding problem that worsens each year. When culling a female that you have treated for mastitis, be sure the drugs have cleared her system before taking her to market or slaughtering her for meat.

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A premium quality lamb milk replacer in a non-medicated formula designed to closely match natural ewe's milk. Made with 100% milk proteins for optimum digestibility and performance in lambs. Sav-A-Lam is formulated specifically for flexibility in feeding - it may be fed warm or cold, by bottle, bucket, or automated feeder. Naturally acidified to help regulate intake and support digestive health. Product contains 23% protein and 30% fat, with balanced levels of all essential vitamins and minerals. The formula is low in lactose and has no added copper.



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PROTEIN, %	16.0	12.5	16.0	18.0	16.0	17.0
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