

COCCIDIOSIS

Coccidiosis is a "stealth killer" of goats because symptoms are easy to miss and irreversible damage can be done if the illness is not quickly treated. The protozoan organism which causes Coccidiosis is the intestinal parasite of the genus *Eimeria* and its species specific—which means that Coccidiosis in one species of animal cannot infect animals of another species. Example: The long held belief by some livestock breeders that chickens can infect goats with *Coccidia* is not true.

The parasite causing Coccidiosis is passed through fecal-to-oral contact. While adult goats can contract Coccidiosis (particularly does that have recently kidded -- their bodies are under stress from the demands of nursing multiple kids), young kids' immature immune systems make them susceptible to this disease. Recall how kid goats pick up and "mouth" everything in their surroundings. Some of those objects are goat "pills" (feces) that are coccidia-infected; the parasites quickly take up residence in the kids' intestines.

Coccidiosis is a disease caused by stress from overcrowding, dirty and/or wet pens, and unclean water. Coccidiosis is very contagious and will spread through a herd like wildfire. The first symptom is usually -- but not always -- diarrhea. Along with diarrhea always comes dehydration and sometimes fever. If treatment isn't begun immediately, permanent damage will be done to the intestinal lining and the goat won't be able to absorb nutrients from its food. Weight loss is substantial and sometimes chronic (cannot be cured); if it lives, the goat will always be "poor." In advanced cases of Coccidiosis, diarrhea can be watery, and may contain mucous and blood. Bloody diarrhea is blackish in color.

Fecal testing is essential. A fecal sample placed under a microscope will quickly reveal to a vet the presence of coccidia oocysts in the goat pills. Begin doing your own fecals to keep better control over the health of your herd. This writer's article explaining an easy and inexpensive fecal-testing procedure appears on the Articles page. Diarrhea in kids does not always mean Coccidiosis, but it must be considered. Fecal testing removes any doubt. Remember, diarrhea is a symptom of an illness and not an illness in and of itself. See this writer's article on Diarrhea on the Articles page .



Dewormers have no effect on coccidia. Medication required for treating Coccidiosis, both preventatively and curatively, is totally different from deworming products. Over-the-counter products for treating Coccidiosis include Albon, its generic equivalent Sulfadimethoxine 12.5% (Di-Methox 12.5% Solution by Agri-Labs), and CoRid. CoRid is no longer recommended by many professionals because (a) some strains of coccidia have become resistant to it, and (b) CoRid is

a thiamine (Vitamin B 1) inhibitor. The importance of thiamine in keeping goats healthy is difficult to overstate.

This writer prefers to use the Di-Methox 12.5% solution; it is a generic of Albon and much less expensive. Although Di-Methox 12.5% comes in both liquid and powder, the liquid is easier to dose properly. To treat a herd that is already infected with coccidia, administer three to five cc's of undiluted liquid Di-Methox 12.5% orally to each kid daily for five consecutive days. For adults, dose at eight to ten cc's in the same manner. Di-Methox 12.5% can also be added to drinking water; follow package directions. Limit access to the water source being medicated. Automatic waterers must be turned off to maintain correct dosage strength. Do not fail to individually orally dose each goat, even if the herd's water supply is also being medicated. Preventative dosage is usually one-half the curative dose; read product labels.

The prescription antibiotic of choice is Primor. Administer one tablet orally in the morning and the second tablet by mouth in the evening of the first day -- and then one tablet orally each day thereafter -- for a total of five consecutive days. Primor comes in body-weight dosages, and the tablets are scored so that they can be split in half for accurate dosing. Endosorb, a prescription tablet that calms the gut, dissolves readily in ReSorb, other electrolytes, or water for easy oral dosing. If Endosorb is not available, over-the-counter Tagamet 200 can be given to goats; kid dosage is one-half of a Tagamet 200 tablet daily for five consecutive days. Use one Tagamet 200 tablet daily for adult goats. Pepto-Bismol given orally may also be used to coat the lining of the stomach and to reduce gut irritation.

*For controlling life-threatening watery diarrhea, the liquid antibiotic Sulfamethoxazole & Trimethoprim Oral Suspension 200mg/40mg per 5 mL (prescription) is excellent. Given orally, the dosage is 2 cc per 100 pounds bodyweight. Dose accurately, as overdosing will constipate the goat. If the prescription antibiotic Primor is not doing the job of stopping watery diarrhea, consider changing to the ultimate prescription antibiotic for goats -- Baytril 100. Baytril 100 is available both in injectable and tablet form, but the oral treatment is believed to work faster in the gut of the goat. Occasionally a goat has an allergic reaction to Baytril 100 and joint swelling (usually in the knees) occurs, so use it sparingly and as a last resort. Treatment is available to resolve this rare problem; it takes a long time to achieve a cure. Injectable Baytril 100 is easier (and safer to the producer) to use than oral tablets when medicating big and strong goats -- particularly bucks. **NOTE: Some jurisdictions prohibit use of Baytril or Baytril 100 in any form (injectable or tablets) in food-production animals; check with your vet.***

Banamine is an excellent prescription medication for both calming the gut and bringing down fever. Normal goat body temperature ranges from 101.5 degrees F. to 103.5 degrees F. Banamine should be administered intramuscularly (IM) at a rate of 1 cc per 100 pounds of body weight. A newborn kid would receive .1 - .2 cc (one-tenth to two-tenths of a cc) of Banamine. Banamine should not be used but once every 36-72 hours; it has the potential to cause stomach ulcers.

A severely dehydrated goat should receive Re-Sorb electrolytes, both in an oral drench and in its water supply. Additionally, Lactated Ringers Solution (an inexpensive vet prescription that no producer should be without) should be given under the skin (SQ) at both shoulders -- dose 30 cc per shoulder SQ for kids. A 60 cc syringe with an 18-gauge needle should be used for this procedure. Keeping the goat hydrated with Re-Sorb (or equivalent) electrolytes and Lactated Ringers Solution (LRS) is critical to the animal's survival. Gatorade or Pedialyte may be used in place of Re-Sorb in emergencies, but these products don't have enough glucose -- so keep a supply of Re-Sorb packets in the medicine chest. Rehydrating an adult goat that won't drink on its own requires stomach tubing in order to get enough liquid into its body. No amount of oral drenching or giving Lactated Ringers SQ will rehydrate an adult goat. See this writer's article on Stomach Tubing Goats in the Articles.



Green leaves are the best natural product to feed to a sick goat, regardless of the illness. Green leaves will be the first food that it will eat, followed by hay. Don't offer sacked/processed grains to a sick goat; they are too difficult to digest. A goat will begin eating sacked or processed grain feeds only when recovery is well underway.

NOTE: This article provides information on a variety of medications for use with Coccidiosis. Do not try to use them all at one time. Faced with Coccidiosis in a goat, this writer would start treatment with Sulfamethoxazole & Trimethoprim Oral Suspension in an animal with very watery diarrhea, then switch to Di-Methox 12.5% liquid oral solution when the stool begins to achieve a "pudding-like" consistency. On run-of-the-mill cases of Coccidiosis, my choice would be Di-Methox 12.5% liquid oral solution. If fever exists, a Banamine injection would be given. If fever is not present, either Endorsorb, Tagamet 200, or Pepto-Bismol would be used. If Di-Methox 12.5% liquid oral solution didn't work, then Primor tablets (prescription) would be dosed. The prescription antibiotic Baytril 100 would be used as a last resort, when no other treatment has worked. Lactated Ringers Solution would be given SQ at the shoulders to a kid who is

not drinking on his own. In all cases, ReSorb electrolytes would be used to avoid/cure dehydration in both kids and adults. Green leaves, if available, should be offered to all sick goats old enough to eat solid food.

At the completion of every five-day antibiotic treatment, repopulate the goat's gut with live bacteria by dosing with an oral probiotic. Goat Guard Probiotic Paste sold by Register Distributing in Wade, North Carolina is this writer's choice. Furney Register can be reached at 1-888-310-9606 or on the Web at www.goatsupplies.com

When kids begin eating solid food at around two to three weeks of age, the producer should consider offering a goat feed containing a coccidiostat to help prevent a coccidiosis outbreak. The general time-frame that kids are at risk for Coccidiosis runs from about two weeks of age (when they begin to pick at solid food) and through five or six months of age (when the immune system is somewhat developed). Feeding a coccidiostat-laced feed will not overcome over-crowding and filthy living conditions. Once goats are infected, coccidiostat-treated feed will not cure Coccidiosis. Some types of coccidiostats are toxic to other farm animals; investigate before choosing a coccidiostat.

Prevent Coccidiosis by keeping pens and bedding clean, water fresh, goats uncrowded, and areas dry. Wet and dirty conditions are incubators of Coccidiosis for both kids and adults. Don't forget the absolute necessity of rotating pastures. No amount of treating for Coccidiosis (or deworming) will offset the need to rotate goats every three weeks into clean, uninfected, and uncrowded paddocks.

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