

## Parasitism In Pygmy Goats

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Parasites afflicting goats can be broken into two major groups: 1) External parasites (ectoparasites); and 2) Internal parasites (endoparasites). [ . . . ]

Internal parasites usually pose the more serious problem to the goat owner. The underlying or initiating cause of severe disease in goats is frequently attributable to some form of internal parasite. Most of these worms and protozoans thrive and multiply in temperate humid climates, particularly where animals are overcrowded. When the nomadic desert goats were brought to such areas and became domesticated, the environmental change upset the tolerant equilibrium between the host and the parasite which exist in the natural state. The organisms which had lived in harmony with goats in the dry, hot, natural habitat were now able to increase in numbers and their ability to cause disease.

### **COCCIDIOSIS**

Members of the Coccidia group of parasites are not worms, but rather protozoans (one-celled organisms) which can inhabit the small intestine of nearly every species of bird and mammal. Goat Coccidia are quite specific for goats; there is possibility of cross-infection from sheep, but not from other species.

Suspect Coccidiosis when a kid or kids develop diarrhea or soft stools, become anemic and weak, and grow rough, unthrifty coats. Repeated bouts of coughing and respiratory problems in the herd may also indicate Coccidiosis. Have your veterinarian run a fecal exam, so that the severity of the infection can be determined. Proper treatment must be initiated immediately, consisting of oral sulfa drugs (e.g. sulfamethazine) or Amprolium for the whole herd. This can be in a food or water mix, or individually dosed in the case of few or severely affected animals. Treatment should be repeated every month until decal exams are satisfactory. (The exams may never be negative, i.e. entirely free of coccidia, even in a very healthy animal.)

Blood loss and dehydration may be severe enough to require transfusions, intravenous fluids, and intensive care. The disease can readily kill a young kid.

The organism is shed in the feces, and with optimum conditions of moderate temperatures, some humidity, and shade, a Coccidia egg (oocyst) can survive for up to eight months on the ground. Only sun, drying, and extreme heat will insure natural control. Therefore, the goat owner should provide raised or fenced containers for feed and water, sanitary removal of contaminated bedding, good nutrition at all times, and avoidance of overcrowding conditions. Parasites thrive in crowded herds. When animals are housed in a barn, a thick bed of straw will allow infective fecal pellets to drop down beyond the animal's reach; and frequent pasture rotation will let the sun kill the bug in the closely cropped grass.

Initiate your Coccidia-control program before young kids are turned out with the main herd; this is when the little ones are usually exposed to the biggest dose of parasite. Sulfa drugs may help at this time. Keeping youngsters separated from the main herd until they are old enough to become more resistant to the infection (at least four months) will also be advantageous.

### **GASTRO INTESTINAL NEMATODES (WORMS)**

Unlike cattle, goats never develop strong resistance or immunity to worms or to their effects. Kids are particularly susceptible.

After the goat ingests infective fecal material, a larval worm migrates through the intestinal wall before attaching itself to the inner surface of the stomach or gut, and a number of these larvae may lie dormant for some time within the tissues, awaiting a suitable time to emerge, such as the first few weeks of freshening, or a nutritional deficiency, or any stressful occurrence which would weaken the animal. I recently read about a case of an adult pygmy doe who had died from an infection caused by these dormant worms. The doe had been wormed and the fecal exams were negative, but the worm larvae had not been touched by the medication. (this, by the way, is the reason for deworming twice, at two or three week intervals. By that time, the young larvae, unharmed by the first dosing, will usually have migrated to the intestinal lumen, where the second dosing can reach them.)

During the migration into the gastro-intestinal lumen, the worms mature and attach themselves to the lining of the stomach or intestine, where they damage the absorptive surface, interfere with digestion, and suck blood from the gut wall. A heavy load of worms will severely debilitate an animal, making it thin, anemic, and unthrifty. Often the hair coat of wormy animals will be dry, lusterless, and stands on end. The worm load may increase when the goat has become sick for another reason, and/or when the animal is moved from clean areas to highly infected premises.

A positive fecal exam indicates the presence of adult, egg-laying worms in the intestine, visible under a microscope; a negative exam is rare in goats, but not impossible!

As with Coccidiosis, control is two-fisted, clean environment being the more effective weapon. Keep water and feed off the ground; if possible, rotate pasture every two weeks; house very young animals separately from mature stock (kids are less resistant to worm loads); remove contaminated bedding, or keep animals on inedible bedding materials.

Ideally, the use of worm medication should be reserved for those times when the fecal exams (done several times a year) justify its use. If the laboratory work is not feasible, the following deworming schedule should be followed: 1) Worm kids several weeks before weaning. 2) Worm all stock at the beginning and at the end of pasture season (spring and fall), and perhaps once more during warm, wet weather. Pregnant does may benefit from the appropriate medications several weeks before freshening. All treatments should be repeated in two or three weeks to kill the mature larvae.

[ . . . ]

## **LUNGWORMS**

“Verminous pneumonia” is the term given to lungworms infestation. It can be an insidious disease, often with fatal consequences, even after the worms are gone.

Infective larvae are shed in the feces after they have been coughed up from the lungs and swallowed. Once re-ingested, they migrate through the liver on their way to the lungs, often causing considerable liver damage.

Egg-laying adult worms inhabit lung tissue, causing a chronic, husky cough or bark and serious secondary bacterial pneumonia. A fecal exam may tell if there are active worms present, but if the exam is negative in the presence of characteristic clinical signs (coughing, pneumonia), have another sample checked a couple of weeks later.

[ . . . ]

Control measures for lungworms (species *Dictyocaulus*) are the same as for gastrointestinal worms.

Again, proper management of feed, water, bedding, and pasture is key to good parasite control. Healthy goats, vigorous kids, and good milk production depend on these factors.

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Excerpts from:

Hale, Lydia, and Ellen Kritzman, eds. [Pygmy Goats: Best of Memo \(1976-1981\)](#)

National Pygmy Goat Association: pp 74-76

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