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## Goat health— coccidiosis

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Coccidiosis in goats can cause ill thrift, severe diarrhoea and sometimes death. It is most often seen in kids stressed animals. Good husbandry practices are required to minimise its occurrence.

### CAUSE

Coccidiosis is caused by protozoan parasites of the Order Coccidia. In goats, the disease is caused by coccidia of the genus *Eimeria*, which invade the cells of the intestinal wall. Coccidia are highly host specific, but sheep and goats may share some species of coccidia.

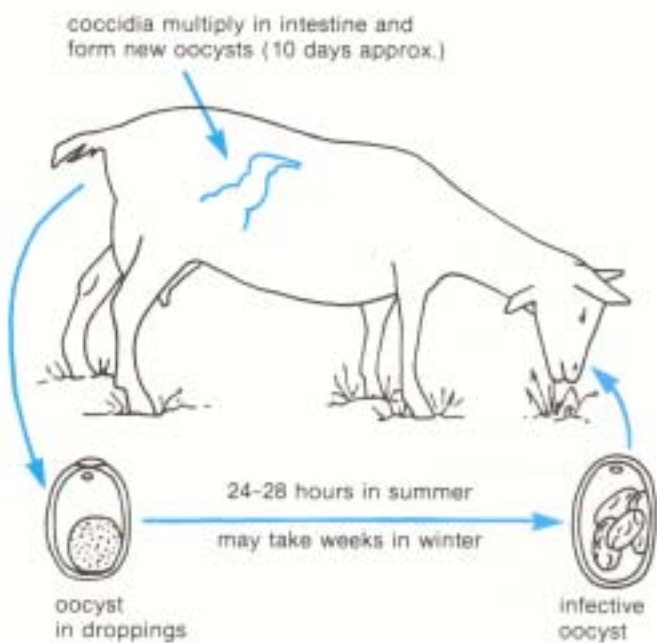
### SIGNS OF INFECTION

The coccidia invade and destroy intestinal cells, resulting in loss of blood and electrolytes and poor absorption of nutrients. The most common sign of infection is diarrhoea, which may be severe and the faeces may contain blood. If the infection is very acute, goats may die within 24 hours without developing diarrhoea.

Affected animals also show a rough hair coat, poor weight gain (or actual weight loss) and weakness. Recovered animals may be left with scar tissue in the intestinal lining so they continue to show ill thrift, and production of milk, meat or fibre can be poor.

### PREDISPOSING FACTORS

Young or previously unexposed goats are the most susceptible, particularly at times of stress—for



**Caption Life cycle of coccidia. Goats pick up infective oocysts from food, water or bedding that has been contaminated by faeces**

example, at weaning. Goats appear to develop a resistance to coccidia with age, but stressful conditions can cause this resistance to break down.

Environmental, nutritional and management factors can all act as stressors and predispose goats to the disease. These factors include poor nutrition, lack of shelter, overcrowding and excessive handling.

Overcrowding of goats in damp conditions, where food and water are liable to faecal contamination, can also lead to a build-up of oocyst numbers and make

a disease outbreak more likely.

## **SPREAD**

A goat becomes infected by ingesting mature oocysts of coccidia. Each oocyst ingested has the potential to destroy thousands of the host's intestinal cells. Once inside the intestine, the infective stage of the coccidia emerge from the oocysts and penetrate the cells of the intestinal wall. They then pass through further stages of development during which they multiply rapidly, rupture the host cells, and invade new cells. This process is repeated several times until finally new oocysts are formed and passed into the external environment via the infected goat's faeces.

Kids are the major source of pasture contamination and newly weaned kids frequently have high oocyst counts.

Once outside the animal the oocysts mature and are then capable of infecting other goats, which pick them up from contaminated food and water and from licking contaminated hair. A kid can readily pick up infective oocysts from a doe's udder.

Moist temperate or cool conditions favour the maturing process. It can be as short as one day in summer, or take several weeks in winter. Once mature, oocysts are very resistant to environmental fluctuations, although they cannot survive hot, dry conditions or direct sunlight. They are resistant to disinfectants, and can survive up to two years under favourable conditions.

If exposure to oocysts is stopped, the infection becomes self limiting. The degree of damage depends on the number of oocysts ingested.

## **CONTROL**

Control is aimed firstly at preventing access of goats to large numbers of oocysts, and secondly at reducing stresses in the goats' environment. The use of preventive drugs is a third avenue of control that may be necessary in high-risk situations.

### **Preventing access to oocysts**

- Use feed and water troughs in which goats cannot defecate.
- Ensure that water troughs do not overflow. • Avoid overcrowding on damp pastures.

### **Preventing stress**

- Provide good, well drained shelter.
- Avoid yarding goats for long periods.
- Avoid mixing young kids and older goats.
- Maintain good health by good nutrition and worm control.

### **DISCLAIMER**

The information contained in this publication is based on knowledge and understanding at the time of review ( May 2003.) However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Agriculture or the user's independent adviser.