

# Coccidiosis in Sheep

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Coccidiosis is a problem of intensively-reared lambs, occurring primarily indoors where stocking densities are high but may also occur in lambs at pasture, where there is heavy contamination around feed troughs in creep areas during warm wet weather. Loss of gut absorptive capacity results in profuse diarrhoea. Morbidity is high but mortality, even in severe cases, is low. Convalescence is protracted in all cases resulting in lengthy delays to finishing and extra feeding costs.

Where coccidiosis occurs outdoors, it is essential that it is not confused with *Nematodirus battus* infection. There are many husbandry methods, especially hygiene, that reduce the incidence of coccidiosis; medication is only part of the answer.



**Coccidiosis can become a problem when there is heavy contamination around feed troughs during warm wet weather. Moving the hopper would help prevent disease.**



**Orphan lambs are at high risk from coccidiosis unless managed correctly.**

## Aetiology

Coccidiosis is caused by infection by the protozoan *Eimeria spp.* which parasitizes the gut lining. There are many *Eimeria* species but only two species cause clinical disease. The ewe is the initial source of the infection but disease multiplies rapidly in lambs presenting a serious challenge to later-born lambs.

## Clinical presentation

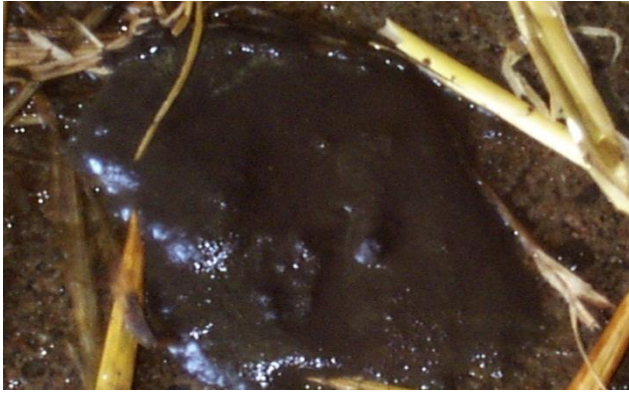
In lambs, infection is initially picked up from the ewes and then, following the short life cycle in the lambs, builds up rapidly in the environment. Lambs four to six week-old are most commonly affected. The common presenting signs are a rapid loss of weight and foetid diarrhoea containing mucus and flecks of blood, causing staining of the perineum and tail. Straining, with partial eversion of the rectum, is often accompanied by painful vocalisation. Clinical disease can be precipitated/exacerbated by a stressful event such as adverse weather, weaning or sudden dietary change.



**The common presenting signs of coccidiosis are a rapid loss of weight and diarrhoea containing mucus and flecks of blood, causing staining of the perineum and tail. Affected lambs are very dull and lifeless.**



**Straining with partial eversion of the rectum is often accompanied by painful vocalisation. There is considerable staining of the perineum.**



**Diarrhoea containing much mucus in a lamb with coccidiosis.**



**The major differential diagnosis for scouring lambs grazing contaminated pasture is nematodiosis.**



**Diarrhoea with the presence of fresh blood highly suggestive of coccidiosis.**



**Profuse diarrhoea in a six week-old lamb with nematodiosis.**

## **Other conditions your veterinary surgeon will consider**

### **Group problem of scouring lambs**

The major differential diagnosis for scouring lambs grazing contaminated pasture is nematodiosis (*Nematodirus battus* infestation), which typically affects young lambs during April/May. (Contaminated pasture relates to grassland grazed by lambs during the previous spring)



***Nematodirus battus* infestation typically affects young lambs grazing contaminated pasture during April/May**



**Profuse diarrhoea in an eight week-old lamb with nematodiosis.**

### **Problem of poor growth in individual lambs**

There are many causes of poor growth in individual young lambs including poor nutrition of the dam, mastitis or other infectious disease. Liver abscessation,

chronic pneumonia, and joint ill could all cause poor growth rate in individual lambs.



**Emaciation caused by chronic pneumonia in a housed lamb (second from left).**

## Diagnosis

Veterinary diagnosis of coccidiosis is based upon clinical findings plus the demonstration of large numbers of oocysts in faecal samples (often greater than 100,000 oocysts per gram) in which *E. crandallis* or *E. ovinoidalis* predominate. In severe infestations, disease may occur before oocysts are shed in faeces. Examination of gut sections from dead lambs reveals large numbers of oocysts.



**In order of increasing size, oocysts (clear “egg-shaped” structures shown at the 12-, 2- and 6-o-clock positions), strongyle (clear) egg to the right hand side, Nematodirus battus (brown) egg in centre.**

## Treatment

Sheep must be moved from infected pastures/premises as soon as disease becomes apparent. Decoquinat (Deccox sheep premix), diclazuril (Vecoxan) and toltrazuril (Baycox) can be used for the treatment and prophylaxis of coccidiosis in lambs and the choice of medication will depend upon individual farm circumstances as prescribed by the veterinary practitioner.

## Management/Prevention/Control measures

Control involves avoidance of faecal contamination of bedding/pasture around feed troughs.

Ensure clean bedding especially around feed areas, move feed hoppers regularly.

Creep areas at pasture can become heavily contaminated especially during wet weather therefore the troughs must be moved daily.



**Avoid faecal contamination of, and around, feed troughs.**



**Move feed troughs regularly to clean ground.**

Medication of the ewe ration with decoquinat will suppress but not totally eliminate oocyst production therefore this regimen is operated in conjunction with medication of the lamb creep feed. Occasionally, disease may occur because there is a problem of ration palatability when the farmer elects to medicate only the lamb ration and the lambs choose to eat the non-medicated ewe concentrate.



**Effective prevention of coccidiosis in intensively-managed lambs.**

Clinical coccidiosis may also occur in growing lambs, once decoquinate-medicated feed is withdrawn because active immunity is induced by contact with developing stages in the gut. In this situation, lambs should be moved to clean pasture once the in-feed medication has been discontinued.

Diclazuril and toltrazuril can be used for the prophylaxis and treatment of coccidiosis in lambs. With respect to prophylaxis, the whole group is drenched as soon as clinical signs are suspected in a single lamb(s). Treated lambs should then be moved to a clean area to prevent re-infection before they have time to develop protective immunity.

Information on the toltrazuril website: coccidiosis is dynamic and insidious on a farm where different animals are at different stages of disease development (depending on the infective dose and time of infection). However, one can deduce the suitable time of treatment (approximately one week before anticipated clinical signs) depending on the history of the farm and prior coccidiosis episodes.

In situations where lambs are moved onto suspected heavily-contaminated fields, diclazuril or toltrazuril should be given 10 to 14 days later to enable some active immunity to develop during this intervening period.

**Future control recommendations could include:**

- Adjust the time of treatment of the flock according to the management practices (indoor management, outdoor management, pasturing, etc.), and the history of onset of diarrhoea in previous years.
- Treatment should be given as soon as clinical signs of coccidiosis appear in several lambs.
- When treatment is withheld until most lambs are exhibiting clinical signs, recovery of the damage already inflicted to the intestine affects the production parameters for several months.
- It is advisable to establish disease prevention programmes in the veterinary flock health plan to avoid the detrimental effects of coccidiosis.

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