

# Bovine Coccidiosis

Coccidia are single celled protozoal organisms of the genus *Eimeria* and have a complex life cycle. Disease due to damage to the intestinal mucosa can present in a variety of ways depending on factors including the age of the animal, its immune status and the level of challenge. Although a dozen or more species of Coccidia are known to infect cattle, only three, *E. bovis*, *E. zuernii* and *E. alabamensis*, are thought to be clinically significant.



## SIGNS OF INFECTION

Clinical signs are most commonly seen in calves, and the classic signs of coccidiosis include diarrhoea, possibly containing blood, and tenesmus (unproductive straining). However, chronic and subclinical forms of the disease are likely to be more common with high levels of challenge and a “reinfection syndrome” being significant. In such cases, clinical signs are frequently non-specific with calves over 10-12 weeks of age presenting as ‘poor doers’ with a rough coat, pasty faeces, reduced appetite and poor growth rates.



## LIFE CYCLE

Oocysts, surrounded by their tough wall, are passed in the faeces of infected animals. They can remain dormant in the environment, resistant to many disinfectants, for a considerable period (measurable in years).

Under the ideal environmental conditions (warm and damp) the oocyst develops allowing infection to occur. A new infection occurs when the developing oocyst is ingested. The parasite invades cells in the gut wall and undergoes a series of divisions and replications resulting in rapidly escalating damage to the gut wall and the passage of more oocysts in the faeces. The duration of this life cycle varies according to the species and conditions but is usually between two and four weeks in cattle.

## DIAGNOSIS

Faecal oocyst counts are frequently recommended for confirming a diagnosis of coccidiosis. Results are, however, frequently disappointing which may be due to one of many reasons, including the fact that in acute cases peak oocyst shedding does not coincide with clinical signs and in chronic and subacute disease and in reinfection syndrome, faecal oocyst counts are frequently low.

The interpretation of high faecal oocyst counts also needs to be made with care since not all coccidia species are associated with significant gut pathology. Where faecal samples are examined, for results to have at least some meaning, multiple samples from in contact as well as affected calves should be examined and speciation carried out if necessary. Cases can occur after weaning once meal (with coccidiostats in it) has been stopped so a good clinical history can also be very useful in reaching a diagnosis.

## TREATMENT

A variety of anticoccidial medicines are available to treat calves with coccidiosis. Talk to your vet for appropriate products.

Prevention, however, is always better than cure.

## PREVENTION

- Coccidiosis is essentially a disease of poor hygiene or poor transition management at weaning.
- Ideally calves should be managed on an 'all in, all out' policy allowing pens to be thoroughly cleaned between batches. However infections are frequently acquired from paddocks which are dedicated to calf rearing. These should be avoided if problematic the year before.
- Disinfection may be useful to manage the build up of many pathogens but coccidial oocysts are highly resistant to most disinfectants.
- Pens should be well bedded regularly when they are in use to keep them clean, and drainage and ventilation is important to keep them dry and warm.
- Feed should be provided in troughs off the floor and troughs and water troughs should be kept clean and free of faecal contamination.
- Meal should be gradually reduced to allow immunity to build up slowly.
- Scouring calves should be isolated to both facilitate treatment and reduce the risk of disease transmission to other animals.
- Strategic dosing, either in feed or as a drench, may also be useful at preventing disease if the time of challenge and disease (frequently around the time of weaning or shortly after weaned calves are grouped in rearing sheds) can be predicted.



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