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## Aetiology

It is thought that there are more than 20 species of the Eimeria parasite that are capable of infecting cattle but only two of these – Eimeria bovis and E. zuernii – are major pathogenic species for cattle. Calves are infected by sporulated oocysts that are derived from the faeces of infected cattle.

Oocysts can remain viable for up to a year outside the animal if conditions are favourable (moisture and moderate temperatures). This disease is, therefore, spread by the faecal contamination of feed, water or pasture.

Coccidia are host specific intracellular parasites that complete both asexual and sexual phases of reproduction inside the host. Ingested sporulated oocysts release sporozoites which then invade gut cells where they grow to shizonts. These release merozoites which then infect epithelial cells of the caecum and colon.

Oocysts are found in the faeces approximately 12-20 days following infection with E. bovis (16-17 days with E. zuernii). Asymptomatic animals can shed large numbers of oocysts and some calves can be very ill before the cycle of infection is complete. These calves show low numbers of oocysts in their faeces. Recovered calves are relatively immune to reinfection by the same species of Eimeria. Factors impacting on the calf's immune system and immunocompetence enhance this parasite's pathogenicity.

## Clinical signs

The classical signs of coccidiosis in calves include diarrhoea containing mucus and blood, rectal straining, depression and depressed appetite. Occasionally rectal prolapse occurs. Affected calves have signs of dehydration and have poor coats of hair.

In dairy calves a much more typical picture is one of loose faeces, poor condition, growth and hair quality. Faecal staining of the tail, perineum and hocks is often seen. It is the most severely affected animal in a group that usually draws your attention to the problem. In such instances the other animals are usually infected but to a lesser extent. The group should be treated as a whole.

Weaning and grouping of calves is often enough of a triggering stress to induce coccidiosis. Occasionally coccidiosis can be seen in yearling stock but it is very rare in milking cows.

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