

Dairyhealth BYTES

Number: 23

Cryptosporidiosis

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Introduction

The cause of cryptosporidiosis is a coccidian, protozoal parasite known as *Cryptosporidium parvum*. This parasite causes scouring in young calves, especially in their second, third and fourth weeks of life. Cryptosporidia are much smaller than coccidia and so are difficult to detect by salt flotation, which is commonly used to detect coccidia.

It was as recent as the 1980s that it became apparent that this parasite was more prevalent than previously thought. It was endemic on many farms and a primary or component cause of neonatal scouring in calves.

Aetiology

C. parvum can infect calves, lambs, piglets and people, as well as other animals such as suckling rodents. As *C. parvum* can infect people this disease has zoonotic ramifications. Genetic analysis of *C. parvum* show there to be two genotypes – type 1 only infects humans, whereas type 2 has a larger host range including cattle. This is important when it comes to investigating human outbreaks of cryptosporidiosis.

Age base resistance is strong so infections typically occur in neonatal calves.

C. parvum usually infects via the faecal-oral route, but infection can be contracted from contaminated groundwater or feed.

The infective dose can be <100 oocysts. Infected calves can shed millions of oocysts in a gram of faeces so infected calf houses or farms can accumulate massive levels of *C. parvum* oocysts.

Sporulated oocysts easily infect neonatal calves and, upon ingestion, they release large numbers of sporozoites which primarily infect the cells lining the small intestine and, sometimes, also the colon resulting in damage. Autoinfection also occurs. Finally, oocyst formation occurs and oocysts are passed from the body in the faecal scour material.

Clinical signs

The major and important clinical signs are scouring, dehydration and a depressed appetite. Therefore, on clinical grounds alone, it is virtually impossible to differentiate this condition from scour caused by other bacterial or viral intestinal pathogens.