

# Cryptosporidiosis

On-Farm  
Research

## Key Points

1. “Crypto” is a small protozoa parasite which causes diarrhoea in young calves.
2. The disease can be quickly controlled with aggressive oral rehydration. Tube feed with electrolytes.
3. Rapid rehydration avoids complications with secondary intestinal infections and reduced growth rates.
4. The protozoa is not host specific and can infect humans, especially children. It results in abdominal pain and cramping with watery diarrhoea, nausea, loss of appetite and weight loss.



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Calf Rearing Fact Sheet 2.6

## What is “Crypto”?

- “Crypto” can be a major problem in the calf shed causing diarrhoea in young calves usually seen between 4-28 days of age.
- *Cryptosporidia* are very small parasites called protozoa. The main problem species are *C. parvum* which infects the small intestine and *C. muris* which damages the abomasum.
- Infected oocysts are excreted in the faeces of infected calves. The parasite has a complex life cycle and persistent infections can be established in the calf. Infection spreads rapidly between animals and persists in the environment.
- The intensity of the infection increases as the calf season progresses due to increased contamination of the environment. Cryptosporidiosis usually originates from a point of infection (maybe one calf) and rapidly spreads to susceptible animals. Initially the incidence is low and peaks within 2-3 weeks.
- Morbidity (sickness) is very high but mortality (deaths) are usually low. The calf can get other infections (viral and bacterial) at the same time and this can result in severe illness and increased death rates.

## What does it look like ?

- The parasite causes cell destruction and atrophy of the villi (lining of the small intestine and abomasum) resulting in reduced digestion and absorption of milk and fluids. The resulting diarrhoea can last from 4-13 days.
- Calves may be hunched and reluctant to suckle milk due to gastric discomfort.
- Faeces may be watery and yellow resembling rotavirus infection or may be mucoid, grey and slimy.
- Growth rates can be markedly impaired depending on the amount of damage to the villi. Poor growth rates are common for several weeks following recovery.

## How common is Crypto ?

- Crypto is present on about 30% of dairy farms.
- Over 30% of calf scour samples are positive for Crypto
- The death rate from affected scouring calves is typically 10% in uncomplicated infections, but may be as high as 30% in septicemic (dehydration, shock, and hypothermia) calves with secondary infections.

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## How can I tell if my calves have Crypto ?

- It is very difficult to distinguish it from other causes without lab testing of faecal samples.
- Many calves with Cryptosporidia, Rotavirus and Salmonella scours lose their appetite.
- Scours from combined infections have a more severe effect.
- Typically scouring is 5-6 days but can be up to 12 days.
- There are now tests which are available for use on-farm. Consult your vet on how to interpret any results.
- Alternatively, ask your vet for sample pottles, and take samples from a minimum of 4 scouring calves. Ask your vet to test to identify crypto, and also test to exclude Rotavirus, Coronavirus, *E coli* and Salmonella.
- Many calves will have multiple infectious agents so veterinary advice will be important.

## How do my calves get infected?

- From cows on infected farms. Some cows (typically 15%) may be shedding crypto at the time of calving (winter only).
- Calves are infected via contaminated faecal matter. This can be on tractor trays used to carry calves, calf rearing sheds, implements used to feed calves.
- Anything calves may find to lick or suckle may help to spread Crypto.

## Are all calves at risk of developing Crypto scours?

- Typically, Crypto scours will only occur up to about 25 days of age but this is much the same with other causes of calf scours.
- Most calves show signs from 6 - 21 days with the highest numbers showing signs of scours about 8 -10 days.
- Many calves will become infected without scouring. An outbreak of Crypto will typically affect up to 30% of the calves being reared.

## What is the treatment?

- Remove from milk and feed electrolytes for 24 hours. Continued feeding of electrolytes between milk feeding is often required for a few days to support the calf. This allows the damaged gut to heal and helps hydrate the calf and restore the electrolyte balance.
- Halocur can be used to prevent and manage outbreaks of Cryptosporidiosis by reducing the number of oocysts excreted in the faeces.
- The use of high quality electrolytes enhanced with the carbohydrate- betacyclodextrin (Kryptade) have been shown to reduce the convalescence period.
- Hygiene and cleaning of equipment, feeders and people (clothing, boots, hands) is very important.
- Spraying the calf shed with disinfectants can help reduce the level of infection.

## What are the actual costs of Crypto?

- Many costs cannot be identified easily. We do know that experienced calf rearers work under tight time and budgets constraints and hospital mobs take a disproportionate amount of calf rearers' time.
- Because scouring continues for a number of days, and younger calves seem to take longer to recover, treatment is extremely time consuming. This process is really tough on calf rearers.
- The delay in reaching weaning weight targets means the number of calves being fed increases, further increasing staff work loads.
- Crypto infections by themselves are not associated with high mortality rates, only prolonged recovery periods from scours.
- When calves have mixed infections e.g. crypto and rotavirus, mortality rates can climb alarmingly to 25-30% of calves being reared. This is particularly the case in calves who have had inadequate colostrum. These calves can make up 75% to 80% of the total calf deaths, primarily due to bacterial infections leading to blood borne infections. This group may get significant benefit from antibiotic treatment.