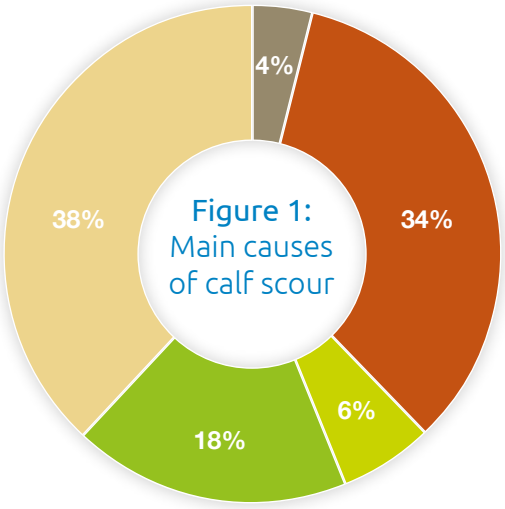
Information Sheet

# Controlling crytosporidiosis in calves

January 2017

## What is cryptosporidiosis?

**Cryptosporidiosis is one of the most common causes of calf scour. Calves are usually infected with the *Cryptosporidium* parasite shortly after birth and develop scour at around 5-7 days old. There are four *Cryptosporidium* species which infect cattle, however the main disease causing species is *C. parvum*. Humans are also susceptible to infection by *Cryptosporidium*, when handling infected cattle.**




## Signs of cryptosporidiosis

The main signs of cryptosporidiosis include watery yellow scour, dehydration and reduced feed intake. Suckled calves will also cease sucking and may lay separately from the rest of the herd.

## Where do calves get *Cryptosporidium* from?

Large numbers of eggs are shed in the faeces of infected calves and cows contaminating the environment. Calves become infected when they consume these eggs by ingesting contaminated food or water. Eggs can be found in bedding, pasture, soil and water. Infected calves shed up to one million eggs per gram of faeces and it takes only a small fraction of this number to cause disease.

Farmers and stock workers can also act as potential sources of infection, making good hygiene procedures such as insisting footwear is cleaned at the farm entrance and before entering calf accommodation. The provision of clean clothing or overalls is important when trying to prevent the spread of the disease.

*Image supplied by Moredun Research Institute*

## The lifecycle

Once ingested the parasite attaches to the gut wall and multiplies which causes damage; this reduces the calf's ability to digest food, resulting in watery scour.

Whilst attached to the gut wall the parasite produces eggs, these are infectious and either re-infect the calf or are shed into the environment from the infected calf's scour.

Symptoms of the disease appear 3 to 5 days after infection. Following infection a calf can shed the eggs for 2 weeks or longer.

Calves can begin shedding eggs in their faeces as early as 2 days of age which means they are susceptible to infection shortly after being born.

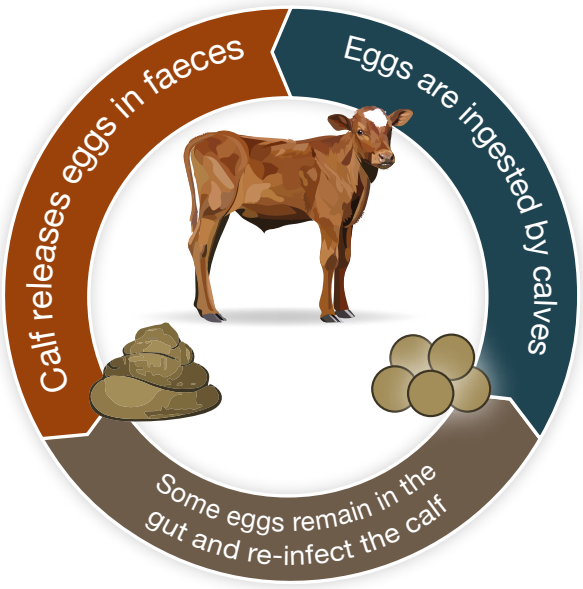



Figure 2: *Cryptosporidium* lifecycle

## Take action

### 1. Diagnosis

Diagnosis is done by identifying *Cryptosporidium* eggs in faeces. If you have scouring calves consult your vet to get an accurate diagnosis as treatments differ depending on the bug(s) involved.

### 2. Environmental control: clean and disinfect

- Keep the area where calves are born clean
- Muck out, steam clean and disinfect as frequently as practical
- Let pens dry as *Cryptosporidium* does not like dry conditions
- Use *Cryptosporidium*-**effective and licensed** disinfectants (KenoTMCox, hydrogen peroxide, Neopredisan, Ox-Virin). Many common farm disinfectants are **NOT** effective against *Cryptosporidium*.
- Turn spring calving sucklers out as soon as possible after calving. When housing autumn calvers keep the environment dry and clean throughout the winter. Use lime to help keep bedding dry.
- Rodent and fly control should be in place and all feed and grain should be stored in covered areas away from rodents and pets.

### 3. Implement the 3 Q's of colostrum

- Quantity: Ensure calves suckle soon after birth or are given sufficient colostrum. They need around 3 litres of good quality colostrum in first feed followed by another similar size feed in 6-12 hours.
- Quickly: The first feed should be within the first 2 hours of life
- Quality should be measured using a colostrometer or refractometer. Only feed colostrum containing at least 50g/L of IgG
- Ensure suckler calves have suckled well within the first 2 hours of birth. Top up with frozen or artificial colostrum if required
- Maintain strict hygiene at feeding.

### 4. Animal Control

- Control all bugs which cause scour in young calves
- Use disinfection on entrance to calf shed
- Vaccinate pregnant dams against rotavirus, coronavirus and *E.coli* thereby reducing scours caused by these pathogens
- Do not mix older calves with young calves, as older calves may still shed eggs
- Keep all calves warm and hydrated particularly if they are scouring
- Isolate scouring calves from healthy calves. Do not mix back with healthy calves for at least one week after scouring stops
- Feed and deal with healthy calves before sick ones

**Important:** if you are using calf jackets they can potentially harbour *Cryptosporidium* eggs. These eggs can only be destroyed if the jackets are disinfected with a licensed *Cryptosporidium* disinfectant (consult data sheet for recommended contact times) and then washed according to manufacturer's instructions and left to completely dry. **Please note: *Cryptosporidium* eggs are only destroyed above 60°C**

### 5. Prevent and Treat

- Rehydration of infected calves is key for survival. Feed one to two litres of oral electrolytes two to four times a day. Continue to offer scouring calves normal amounts of milk or milk replacer as long as they want to drink. Allow suckler calves access to their dam at all times, if they have stopped suckling, milk and feed the calf via a teat or stomach tube if possible
- Use a licensed product for both the prevention and treatment of cryptosporidiosis (eg Halocur®) to reduce egg secretion and the severity of calf scour
- For prevention dose all new-born calves with Halocur® within the first 24-48 hours of life.
- For treatment, dose all calves within 24 hours of diagnosis. Ensure dehydrated calves are fully rehydrated before treatment.

### For both regimes:

- Accurate dosing is essential
- Dose orally after feeding for 7 consecutive days


## Acknowledgement

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