

Disease Factsheet

Cryptosporidiosis



What is Cryptosporidiosis (Crypto)?

Cryptosporidia are a family of protozoan parasites, akin to Coccidia. They cause severe enteritis and diarrhoea in many animals including calves, lambs and humans. Crypto is most commonly seen in between 5 -21 days of age; it is uncommon in older calves unless the environmental challenge is very high.

How do calves become infected?

Often carried and shed in the faeces of older cows and vermin, the parasite infects the calves after ingestion of the eggs from the environment. Infected calves then shed large numbers of eggs leading to a build-up in the environment as calves pass through the housing; the eggs have extremely tough resistant shells which survive most known disinfectants. Ingestion of eggs by calves often occurs where there are dirty buckets/water troughs/feed troughs and where suckler cow bedding is soiled allowing dirt to crust on teats; this parasite thrives in wet environments. As young calves often lick items within their environment there are many sources of infection within most housing situations.

What happens when infected?

Once infection occurs, the parasite invades the small and large intestine causing severe damage to the intestinal lining. Whilst this damage begins at time of infection, the associated scour from infection usually is not obvious for 4-5 days, this means a lot of damage may already have occurred prior to signs.

The associated scour is usually very watery, but without obvious blood; the calf quickly becomes dehydrated showing signs such as weakness and sunken eyes, and then acidotic (milk ferments in colon to produce lactic acid which enters the blood stream); this depresses the calves suck reflex, causes rapid breathing and weakness or recumbency. As calves infected with crypto will be actively fighting this challenge, their immune system is distracted making them more vulnerable to other common infections such as e-coli, rotavirus, coronavirus and the pneumonia viruses.

Treatment

As this parasite will likely affect all young calves within the shared area, **a scour sample should be taken when crypto is suspected and sent to the lab for confirmation** before commencing preventative treatments which are labour intensive and expensive. This should also identify any other concurrent intestinal disease present which may alter treatment choice.

All calves with crypto will require 8ml Halocur given orally once daily for 7 days, **associated dehydration and acidosis should be treated dependent on the severity of signs as described below;**

<u>DO I NEED A VET?</u>	<u>TREATMENT</u>
Standing, strong, good suckle reflex	Supplement milk with oral electrolytes for 48 hrs or until calf stops scouring.
Standing, weak, poor suckle reflex	May benefit from veterinary attention, heat lamp and IV fluids in addition to oral electrolytes for 48 hrs or until calf stops scouring. Treat with antibiotic and give sodium bicarbonate drench (this can be collected from practice/left by vet).
Cannot rise, weak or no suckle reflex	Call Vet! Needs IV fluids! Then oral electrolytes for 48 hrs or until calf stops scouring as well as antibiotics and sodium bicarbonate. Do not give oral fluids if calf unable to lift head (may choke).

Prevention

- It is vital to reduce environmental contamination as much as possible, this means maintaining clean dry calving pens/buckets/feeders/drinkers with regular disinfection. Regular cleaning out of calf pens will help remove large numbers of oocysts. The majority of disinfectants will not kill crypto eggs; currently available disinfectants recommended for crypto include 'Kilcox' and 'Kilcox Extra'. If crypto eggs are allowed to build up within the housing even older calves may suffer infection.
- To give calves the strongest start and the best chance of fighting any challenge, all calves should receive 3 litres of GOOD QUALITY colostrum within the first 6 hours of life. Many farms will use a calf feeder bag for the first feed to help ensure this. Colostrum quality can be evaluated by 2 methods;
 1. Colostrometre: This is a simple and inexpensive device, similar to a thermometer, which **can be used for each individual cow** by milking a small amount of colostrum into the device. It will give a rough but immediate guide to quality. It uses a traffic light scale, where green = good, amber = average and red = poor; this device allows you to know which calves may need a colostrum substitute or frozen colostrum as well as highlighting the best colostrum for freezing.
 2. ZST test: This test is performed on calves 1-5 days after they have suckled, it requires a blood sample to be taken from individual calves. The test **gives a more accurate result** than the colostrometre, so will more readily detect cases where colostrum, whilst not poor is not giving as much protection as possible and may be improved upon.
- When there is a known risk of crypto exposure (identified within a house/pasture in either this or the previous season) it is best practice to treat all calves born, with 8ml once daily for the first 7 days of life to prevent disease. Remember, this disease not only will increase calf morbidity and mortality, but will also impact on future growth rates and general thrift. **Severe intestinal damage is irreversible**, and unlike with liver damage, the undamaged intestine is very limited in its ability to compensate.
- **Calves actively scouring will be shedding massive quantities of eggs** and ideally should be quarantined until they are fully recovered and over 2 weeks old. Scouring calves should be kept in pens which are easily disinfected (i.e. concrete/metal partitions, pens with non-solid flooring or wooden sides are unsuitable).
- Disinfectant footbaths containing one of the fore mentioned suitable disinfectants should be used when moving between calf pens and houses. Remember, if these are not maintained with fresh disinfectant they will become heavily soiled and useless.