
CALF SCOURS - CAUSE AND CONTROL

Problems with scours in young cattle are distressingly common - nationally about 89% of dairy units had incidents, and on 63% the condition was fatal. In 80% of those events the farmers didn't seek veterinary advice - a decision that can be costly as a typical case of calf scours cost £44 excluding labour.

Calf scours is a numbers game - but it should not be a lottery. If the populations of dangerous bugs in the environment can be kept below levels where they can overwhelm an animal's immune defences, the diseases will be kept in check. Then the business can look forward to better figures on its end of year balance sheet.

Moreover, losses can continue long after the animal has apparently regained its health - heifers that had suffered scours as calves typically produce £59 less milk in their first lactation. And although there is no definitive evidence, it is quite possible that early disease creates permanently 'runty stock'.

Causes

Many different pathogens can cause scours but Rotavirus is by far the most common, responsible for about 42% of cases. Second is Cryptosporidia with 23% of incidents, followed by Coronavirus (14%), Salmonella (12%) and E coli K99 (3%). Coccidiosis also causes scours, typically in older calves, but this is covered in a separate fact sheet.

With so many possibilities getting a definitive diagnosis is vital to determine appropriate treatment. Submitting four or so fresh faeces samples at the beginning of a scour problem can provide a rapid result and allow correct treatment and control measures. It is dangerous to assume that a one-off diagnosis will determine treatment in a protracted outbreak as the organisms involved may change and regular monitoring is recommended.

Organisms: Rotaviruso Cryptosporidia Coronavirus Salmonella E.coli	Key points: Early detection Specific diagnosis Prompt and frequent Oral electrolyte therapy Appropriate medication
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Treatment

Treatment will involve oral electrolytes or drips to correct the dehydration and acidosis that is the main cause of death. Calves will also need milk to provide energy to deal with the disease. Early fluids with energy source and bicarbonate against acidosis, fed frequently are the key to successful treatment. In cases of bacterial scours (E.coli/salmonella) antibiotic treatment may be useful, and with Cryptosporidia a specific medicine will be prescribed. All of this reinforces the need for accurate diagnosis.

Control

With calving patterns becoming less fixed, young calves are now contracting scours at all times of year. But early winter is a particularly vulnerable period because of a number of factors - recent housing, changes in diet and cold damper weather may all increase the stress that can trigger an outbreak.

Hygiene: The best defence against scours is simple hygiene to reduce exposure of vulnerable calves to another animal's faeces. Good stockmen know that attention to detail will minimise such risks, by disinfecting calving boxes, feeding utensils and providing plenty of clean bedding. They also watch that calves are feeding properly and will identify and isolate animals showing early signs of disease.

The major source of pathogens for the calf is its mother. Once the colostrum has been fed removing the calf from its mother to an individual pen will reduce the risk of disease. The use of calving hutches to provide a controlled individual environment is now proving an effective tool against scours. They are also useful as isolation pens for infected calves to reduce spread.

Colostrum: The main protection against intestinal infections and also septicaemia, joint ill, navel ill, etc., is to ensure that calves get adequate colostrum - "Wonderful stuff! - food, fluid and antibodies all in one and the best thing about it is that it's free". As a rule of thumb, it is necessary for a calf to receive 3 litres (6 pints) of good quality colostrum in its first six hours - failing to achieve that target could seriously compromise the calf's health. Any animal with inadequate antibody levels is four times more likely to die during a scours outbreak.

50% of calves do not receive enough quality colostrum e.g. those born after difficult calvings, from heifers producing colostrum with low antibody levels, from older cows with pendulous udders, and also from cows suffering milk leakage. Ensure that all cows produce colostrum of the highest possible quality by ensuring correct dry cow nutrition and management.

Freezing some good quality colostrum, in 6 pint amounts, is a good idea as it means there is some on standby for any calves where the quality of the colostrum is suspect. Quality can be gauged using colostrometers measuring the specific density of the colostrum. See your vet for details. Colostrum can be stored frozen for up to a year with no loss of quality. Frozen colostrum should be thawed slowly in warm water to prevent it being damaged. Do not use the microwave!

For any calves suspected of not receiving colostrum then administration by stomach tube will be the answer.

Prolonged colostrum feeding: Calf diarrhoea usually starts 5-7 days after birth because not only is there a decline in the secretion of antibodies from the calf back to the gut, there is also a reduction in the antibody levels in the mother's milk. It is possible to maintain antibody concentrations within the gut and have a significant scour prevention benefit by prolonging the feeding of colostrum.

The colostrum can be stored in a lidded bin such as a plastic dustbin at room temperature where it will gradually acidify. This soured colostrum is then fed back to the calves for two to three weeks until the main risk period for scours has passed.

It is also important to ensure the correct teat positioning to ensure normal swallowing reflex and then correct digestion occurs, as well as keeping teats and feeding machines clean and problem free.

Please note if you are trying to control or eradicate Johne's disease from your herd, then there is the potential to spread infection by feeding pooled colostrum. Discuss with your vet the relative risks involved.

Vaccination

An important factor in achieving immunity to specific organisms is vaccination of the dam against the main infectious agents.

For Rotavirus, E.coli and Coronavirus there is a single vaccine (RotavecCorona-S/P) given between 10 days and 2 weeks before calving. Treatment at drying off is therefore convenient from the management viewpoint. Feeding colostrum for the first 14 days aids prolonged protective immunity.

For Salmonella infections - vaccination with Bovivac-S (Intervet) during the dry period is also available.

No vaccination currently exists for Cryptosporidia so we are reliant on early diagnosis and treatment.

Key control measures:

- Colostrum - 2 to 3 litres in first 5-6 hours
- Hygiene -calving environment
- Hygiene - calf rearing pens and equipment
- Vaccination