

Animal health advice for producers in the Hunter

FACTSHEET



CALF SCOURS IN BEEF HERDS

Calf scours is most common in beef calves during the first six weeks of life. A scours outbreak can be time consuming, expensive to treat and, if not managed correctly, can result in significant losses (up to 10% of calves born).

During the autumn calving period 2020 multiple beef herds in the Hunter had issues with scours in calves under six weeks of age. Losses ranged from 5-10% of calves and there were varied causative organisms, including more than one organism on the same property. Most of the cases coincided with calving during wet weather periods.

With weather forecasts suggesting a La Nina event with higher than normal rainfall over the rest of 2020 and early 2021 the likelihood of developing scours in beef calves during the spring calving is increased.

Calf scours are due to a combination of predisposing environmental conditions and infectious organisms. More than one organism can be present in the one calf during a particular outbreak. During autumn, different properties had different organisms, including some unusual Salmonella species rarely seen in cattle.

It is important to remember that several of these organisms are zoonoses and can cause diarrhoea in people. Care must be taken when treating sick calves to use disposable gloves and overalls to prevent contamination of clothes and to disinfect hands and equipment appropriately. Contaminated overalls should be washed separately to the family wash.

Common pathogens which cause calf scours include:

- Cryptosporidia
- Rotavirus
- Bovine coronavirus
- E. coli
- Salmonella

These pathogens are shed in low, but increasing, numbers in the manure of cows around the time of calving, and in much greater numbers in the manure of scouring calves and unaffected calves up to six months of age. The younger the calf, the smaller the dose required to produce disease.

Calves rely on the ingestion of colostrum in the first 24 hours to provide antibodies against organisms they will encounter in their environment. They are not able to produce their own antibodies for a couple of months. Therefore, we rely on the cows producing good quality colostrum, containing antibodies to the organisms of the local environment, and enhanced by vaccination, to provide protection for the calves. Failure of this passive transfer of immunity can be caused by cold wet conditions decreasing drinking during the first 24 hours; cows not vaccinated or being brought onto the property in late pregnancy with insufficient time to respond to local organisms; organisms entering the bloodstream through umbilical chords that do not get time to dry out due to wet conditions; heavily contaminated paddocks being used for calving every year; cows that are immunosuppressed due to very low selenium or copper; and dystocia, or calving difficulties.

Treatment of affected calves is difficult, as, often, producers are not able to catch calves to treat them until they are severely ill and often beyond responding effectively. It relies on rehydrating the calf, meeting the energy requirements of the calf, providing a warm dry environment and use of antibiotics if indicated. Some producers put portable panel "pens" in the paddock that allow the cow to sniff the calf over the pen but allow the calf to be easily caught and treated. This separation should be for no longer than 24- 36 hours maximum but can be associated with increased mastitis and mismothering depending on conditions.

If calves are still suckling then avoid electrolyte solutions with high levels of bicarbonate or citrate as these will impair milk clot development in the abomasum. Those with acetate or propionate are better. Your vet can advise you on the best electrolyte for your situation.

Not all scours require antibiotics as they may be viral infections, so it is worthwhile contacting a vet to organise identification of the cause.

As it is difficult to control the disease once calves start to scour and become sick it is important to manage

calving herds to avoid outbreaks. Vaccine against coronavirus, rotavirus and E.coli is available to be given to cows prior to calving and can be of benefit in assisting prevention of scours through colostral antibodies. However, management of other predisposing factors is also important. One of the herds we assisted had had previous issues with scours caused by rotavirus and coronavirus for which they now vaccinate the cows, and this year had an outbreak of Salmonella and cryptosporidium (although testing showed prevention of rotavirus and coronavirus had been effective).

Figure 1: How to decide the appropriate treatment for a calf

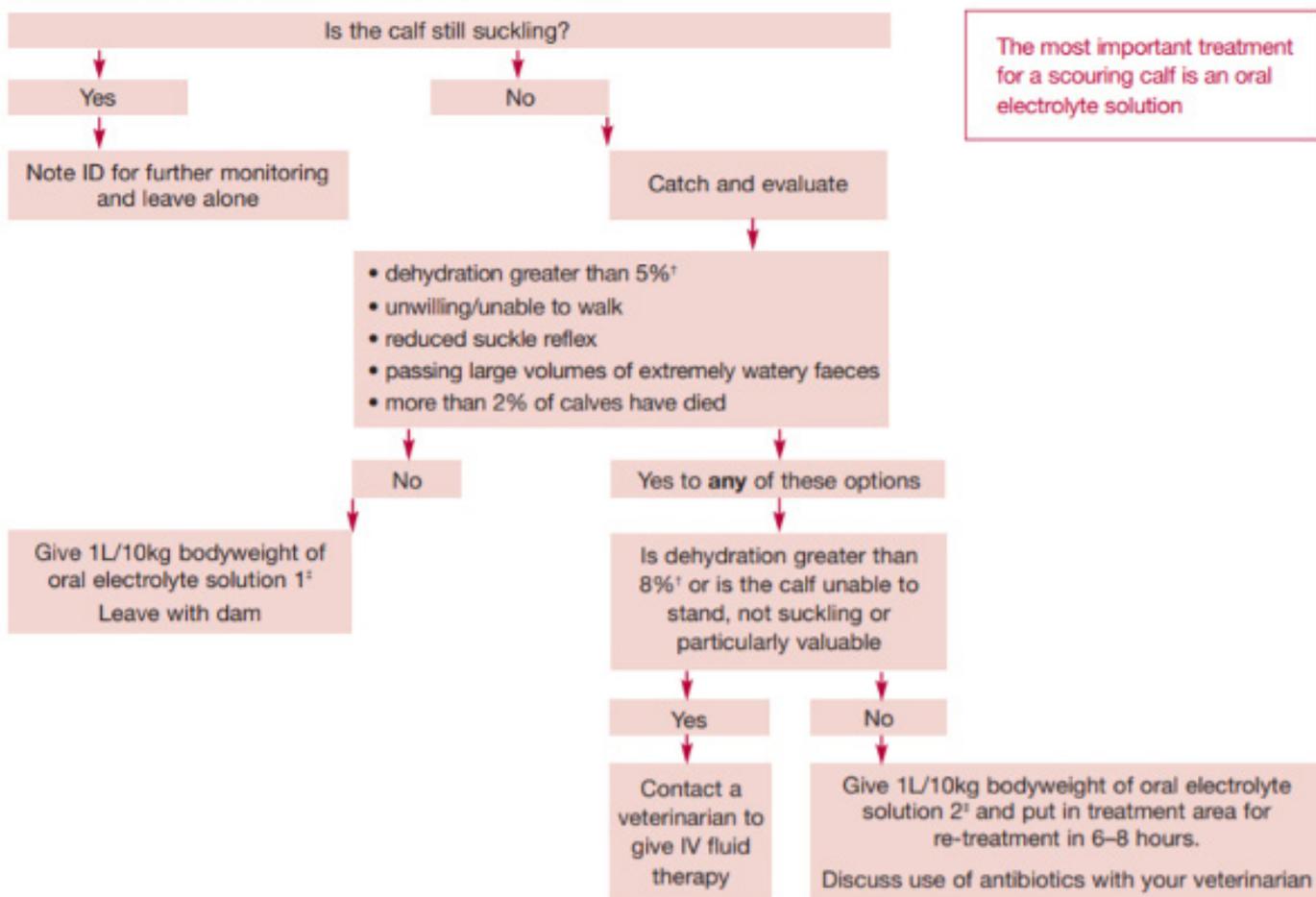


Table 1: Estimating dehydration levels in calves

% Dehydration	Attitude	Suckling	Eyeball sunkness	Duration of skin tenting (Time – seconds)	Gums and nose
1–5	Bright and running, head up	Yes	None/slight	1–4	Moist
6–8	Standing or sitting, unwilling to move, head down	Maybe slowly	Slight separation between eyeball and orbit	5–10	Sticky
9+	Sitting or lying, head down	No	More than 0.5cm between eyeball and orbit	11+	Sticky–dry

CALF SCOURS PREVENTION PLAN

- Limit stock introductions, vaccinate and follow strategic drench recommendations.
- Select bulls for ease of calving and manage short joining/calving period.
- Manage heifers as separate mob.
- Use protected calving paddocks, with low stocking density and easy access to feed, water and supplements.
- Rotate calving paddock from year to year to reduce build-up of infectious organisms. Some organisms can live in the ground for up to 12 months.
- Move calved cows with their calves through to clean paddocks after calving.
- Do not mix age groups of calves until greater than four weeks of age.
- Avoid yarding calving cows or heifers unless calving assistance is needed. This limits the opportunity for spread of scour organisms to newborn calves.
- Limit time assisted calves are held around the yards.
- Clean crush areas and flush with a disinfectant after each use.
- If a scour outbreak occurs, hold and treat affected calves in a mobile calf pen (providing warmth and shade) in the paddock away from 'cow camps' but near their mothers.
- Avoid calving over summer as cattle gathering under shade trees creates conditions of close contact which allows spread of scour-causing organisms by flies and direct contact. In addition, increased temperatures mean calves die of dehydration more rapidly.

Courtesy of Dept of Primary Industry and Regional Development, Western Australia. (with addition)



HERE'S HOW TO CONTACT YOUR DISTRICT VET:

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