

Rotavirus

Summary

- Rotavirus is the biggest animal health issue facing calf rearers.
- Rotavirus affects calves less than 3 weeks old and is spread by infected calves shedding large quantities of the virus.
- Calves affected have a pale yellow brown rancid smelling scour.
- Confirm with a lab test.
- The key to managing an outbreak is early identification, separating affected calves and treating with electrolytes.
- Treat with electrolytes.
- Vaccination of cows prior to calving and ensuring calves get adequate colostrum helps prevent an outbreak.
- Spray the shed after each season and every 3-4 days with a virucide solution throughout the risk period.

Rotavirus is the biggest animal health issue facing calf rearers with some experiencing death rates as high as 30%. It can be devastating and demoralising. The virus is persistent in the environment, and can remain infectious for many months at room temperature. It can withstand low temperatures and high humidity on non-porous surfaces like plastic and concrete.

How is it spread and what are the signs? Rotavirus usually affects calves less than 3 weeks old and is primarily spread by infected calves shedding large quantities of the virus. Other calves ingest faecal matter or inhale virus particles. Incubation time depends on the level of environmental challenge the calf is exposed to but is typically between 24 - 48 hours.

The most obvious sign of Rotavirus in calves is a pale yellow brown scour, often rancid smelling. This scouring leads to fluid loss, electrolyte loss and dehydration.

Initially Rotavirus will need to be confirmed with a lab diagnosis but experienced rearers generally make a diagnosis very quickly. The key to managing an outbreak is early identification of infected calves so that they can be separated from healthy ones and treated promptly with electrolytes.

During each feed it is important to cast an eye over each calf to identify any potential signs of illness. These may include-

- Hanging back from the feeder/reluctance to come in and feed,
- Reluctant to drink, fussing with teat, coming off teat,
- Drinking slower than normal,
- Wet tail,
- Pale yellow scour – can sometimes be watery and/or bloody.
- Most calves that die, do so from loss of water and electrolytes, rather than from direct action of rotavirus itself. This means rapid treatment with electrolytes is critical.
- Animals may continue to shed the virus in their faeces even if they are not showing clinical signs.
- Calves do not become “immune to rotavirus” so they can get re-infected.

However, because calves are older, the second infection is usually less severe.

Treatment: Treatment with large volumes of electrolytes is labour intensive and time consuming- and not always effective particularly with younger calves. Even if the animals do recover, they will still shed large numbers of virus particles into the environment, potentially infecting healthy calves. Recovered calves may have slower growth rates and be more susceptible to other diseases.

Feed large volumes of electrolytes but don't stop feeding milk as it is important to keep the calf's energy levels up. Many electrolytes contain sodium bicarbonate that alter the pH in the digestive tract and adversely affect milk absorption, so milk and electrolytes should be fed at least two hours apart.

As a general rule, calves in the sick pen need as much electrolytes as you have time to get into them.

While only small numbers of calves are infected isolate the calves being careful to disinfect any equipment used with sick calves. Don't go straight from the pens with sick calves to pens with healthy calves – clean boots and overalls.

Spray pens with a virucide if sick calves have been removed. This should help protect the remaining calves in that pen.

How do we prevent Rotavirus? Unfortunately there is no silver bullet although vaccinating cows against rotavirus and then feeding calves with colostrum and milk from these cows certainly helps. The risk period for the incidence of Rotavirus infection generally occurs between 5 and 14 days of age when the passive immunity from the dam is wearing off and the calves own immune system has not fully developed. Antibodies in colostrum can continue to provide limited local immunity in the gut (even though they can't be absorbed through the calf's gut) so feeding of colostrum from vaccinated cows will help prevent the development of rotavirus.

The timing of rotavirus on dairy farms often coincides with stored colostrum running out.

The addition of Rotagen Combo, which contains specific antibodies and immunoglobulins, to milk can be used as a preventative and treatment.

Ensure the shed is thoroughly cleaned out at the end of each season and sprayed with a virucide solution. To reduce the virus contamination to a minimum, spray the shed every 3-4 days with a virucide solution throughout the risk period (i.e. until the youngest calves are at least two weeks of age).

Many solutions are suitable for spraying over calves. Maintain a high standard of cleanliness in the shed and thoroughly clean and disinfect equipment such as feeders, especially equipment used in the sick pen.

Avoid visitors to the calf shed. If calves are coming from a number of sources, pen calves from the same farms together and group calves according to age.

Source: DairyNZ. Calf Rearing Fact sheet 2.4