

80% morbidity from BVD virus causes neonatal diarrhea

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“A battery of tests performed during an outbreak of neonatal diarrhea with high mortality did not detect BVD virus. Yet two PI animals were identified three months later. Identification of PI animals and vaccination led to a reduction in diarrhea cases and shorter calving intervals.”

Background

This clinical case occurred on a cattle farm of 95 Charolais cows in stabulation during the winter. Calving takes place throughout the year. The farm experienced numerous cases of diarrhea between 2004 and 2007.

Preliminary Indication

An analysis of the situation reveals that colostrum management is unsatisfactory and IgG levels are too low.



Frequent coproscopies indicate that *Strongyloides* is a recurrent problem. A deworming program with the anthelmintic avermectin is set up.

Further Development

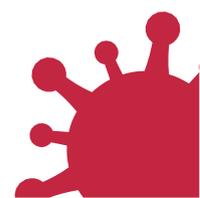
On 13 October, the farmer called me again to visit a 6-month-old male calf (ear tag 6719) with symptom onset similar to the euthanized PI calf. Given the farm's recent history, I suspected it could be a new case of mucosal disease in a PI animal, which is why we tested all animals older than 3 months on the farm for BVD antibodies, and those that were negative we then tested for BVD antigen.

The samples were once again sent to the laboratory. I was informed that of the 17 samples, only 1, calf 6719 (the source of the suspicion), was negative for BVD antibodies. The calf was subsequently found to be positive for BVD antigen, confirming it to be a PI animal.

Treatment Applied

Emergency vaccination is prescribed for the breeding stock, with the aim of protecting the fetuses during gestation. In 2015 a new vaccine that simplifies the vaccination program is chosen.

At the same time, PI animals are identified by PCR on yearling calves, and one-year and two-year heifers.



Result

The number of neonatal diarrhea cases fell sharply following the introduction of the vaccination program. Mortality during the first month decreased from 9.9% in 2013 to 3.8% in 2015.

The farmer noted an improvement in antibody levels in colostrum, which he has been measuring since the outbreak in 2004-2007. And he has now been recording his measurements for the past year. The higher quality of the colostrum reflects stronger immunity in this Charolais herd.

We also note that the calving interval has improved over the years, from 427 days in 2013 to 403 days in 2014.

BVD virus appears to us as a factor that weakens immunity. Combinations of pathogens are frequent in dairy cows. The pathological impact of BVD is multiple, especially with regard to reproduction. The management of BVD was a necessary prerequisite in this farm before considering other pathologies.

Questions

Q1: Two PI calves were identified on the farm. What emergency measures were taken?

1. Euthanasia of the calves and vaccination of all heifers.
2. Vaccination of brood cows and heifers.
3. Search for persistent infection in young animals and vaccination of the breeding stock.

Q2: Annual vaccination of the suckler herd led to:

1. A reduction in the abortion rate.
2. Fewer non-deliveries.
3. A shorter calving interval.