

Beating BVD

Dairy Co's Dr Elizabeth Berry draws on Cheshire dairy producer Ray Brown's experiences, to demonstrate how you can stamp out BVD on your farm

BVD (Bovine Viral Diarrhoea) is an extremely expensive and time consuming disease to deal with. Its effect on cattle causes a variety of clinical outcomes that range from the inapparent (sub-clinical) to the more severe. BVD can cause abortion, infertility, an immuno-suppression that underlies calf respiratory and enteric diseases and, in most dramatic cases, the fatal mucosal disease.

Despite Scotland and Ireland implementing a BVD eradication programme, the disease is still continuing to be a problem on dairy farms in England and Wales.

“If we want to compete with our neighbours in Europe including Scotland and Ireland who already have schemes in place to control BVD, now is the time to act,” says dairy farmer, Ray Brown from Cheshire.

BVD (Bovine Viral Diarrhoea) is a viral disease that compromises the immune system, a bit like aids in humans. It causes pneumonia issues in calves, and fertility and cell count problems in cows. It is spread by the existence of persistently infected (PI) animals in a herd through nose-to-nose contact and the constant excreting of the virus.

Ray's 320-head *Bidlea* herd aims for 9,500 litres from an extended grass based system and is widely-known for selling well-bred pedigree breeding bulls and freshly calved heifers.

The RDPE scheme, Livestock Northwest, offers funding towards investigating herd health issues. Wanting to get an accurate hold of his herd's health status, Ray took advantage of the subsidies and screened different youngstock management groups from around 9 to 15 months old for BVD antibodies. Ray also tested the bulk milk for BVD antigens. Luckily there was no

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evidence of BVD antigen in the milking cows, but the youngstock screen indicated there was infection in the younger animals. Ray was very lucky to have caught the virus whilst it had only started to infect the youngstock.

The next step after establishing the herd status was to find out if there were any PI animals in the younger cattle. The ‘tag and test system’ was used – a tissue tag from the ear is taken at the same time as putting in the ear tag.

Three calves showed up as PIs and as these were well-bred pedigree animals, Ray took the step of retesting after a few weeks in case some were only transiently infected. Fortunately one was clear on the retest but the other two were still positive. One of the infected animals died – but PI animals can live for a long time and have calves themselves, which also will be PI animals. The other PI was culled. Ray says: *“First loss is best loss and it helps staff’s moral if they know they don’t have other PI or sick animals around, and it certainly cuts down the vet bills.”*

These PI animals had been in a group of calves and the other calves in the groups had very poor growth and pneumonia symptoms, and one died even though it was not a PI.

So with the three BVD cases not removed from the herd, where did the disease come from and how long had it been there? As is often the case, the answers are not clear. Ray does buy-in animals occasionally and in the future he will check an animal’s BVD status. Double fencing all boundaries is being considered as cows and calves do graze outside. Continued overleaf...



How is the disease transmitted and spread?

The disease is maintained by a small population of animals that become persistently infected (PI) with the virus. These PI animals are the major reservoir of BVDV and arise after becoming infected whilst in the uterus during early pregnancy. Such infections remain throughout the pregnancy and after birth for the lifetime of the animal.

Interestingly, although infection of the foetus results in a persistent infection, the mother is only transiently infected and becomes immune to the virus within 2-3 weeks. PI calves often die prematurely with respiratory or enteric disease but may also live a relatively normal life for several years; all the time they are shedding large amounts of virus and acting as a reservoir of infection for in-contact cattle.

Non-pregnant cattle which encounter the BVD infection may suffer only a mild disease but could be susceptible to other infections such as pneumonia.

What are the clinical signs?

Acute infection with the BVD virus is usually subclinical, causing mild or undetected disease. In dairy cows, it may result in a temporary drop in milk yield and/or scour. In calves, dual infections with respiratory or intestinal viruses may produce more serious clinical problems.

In some cases, acute infection can cause severe intestinal diseases and even mortality for adult animals; it can also result in reproductive losses.

Prevention & control of the disease

Control and prevention can only be achieved through adhering to strict biosecurity procedures, screening and long term control strategies. Regular monitoring is vital to know ongoing status and vaccination, if advised, should be carried out in discussion with your veterinary surgeon.

Sources: DairyCo [www.dairyco.org.uk], Royal Veterinary College [www.rvc.ac.uk]



LEFT A ‘tag and test’ system is being used on the calves to monitor the herd. In this method, ear tags look and are used in the normal way, but when the tag is inserted through the ear – a tissue sample is simultaneously extracted and collected in a vial attached to the tag applicator.



FAR LEFT To be confident of a BVD-free herd, Ray Brown tags and tests every calf and monitors the bulk tank for BVD antigen.

Ray did not vaccinate, but it is something he

is doing; now his herd is BVD free. Buyers often ask the vaccination status but they need to ask if the herd is BVD free as well. Vaccinating a PI animal will not cure it and PI cows will give birth to PI calves.

Ray believes easy identification of a calf's BVD status after tag and testing in the form of a sticker on a passport would be great progression. A database of BVD accredited herds would be even better. A national BVD eradication scheme would be achievable and the way forward.

Ray will continue to monitor the bulk tank for BVD antigen and tag and test every calf. Wanting to guarantee a BVD free disease status, Ray is in the process of going for a CHcS based accreditation scheme for BVD. This means that anyone buying Ray's animals will know that everything has been done to guarantee his BVD free status.

Key messages around BVD control

PLANNING Consult your vet on how to control BVD to improve health, welfare and profitability

INVESTIGATING Know your BVD status

CONTROLLING
Buy only BVD free animals
Cull PI animals – it is key to control BVD
If vet advises vaccinate

MONITORING
Check your BVD status at least annually

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