

A campaign to promote the control and prevention of BVD in cattle

BVD
zero

The red flag signals that could indicate BVD is in a herd

According to a study of vets and farmers throughout Europe, many vets associate BVD with reproductive losses in herds, yet farmers most commonly linked it with respiratory issues. Is it that the reproductive impact is hard to spot or under-estimated?

"Most herds suffer an abortion rate of 1-2 per cent," says Jonathan Statham of Bishop-ton Vets in North Yorkshire, part of the XL Vet Group.

"But those with BVD may see a rate approaching 5 per cent, and that excludes early abortions in the first three months of gestation which may go unseen. Some herds may be unfortunate and suffer an abortion storm, which is not uncommon with BVD, where losses could be about 10 per cent."

BVD affects herd reproductive performance in several ways:

- Abortions.
- Early embryonic death.
- Returns to service due to fertilisation failure.



Jonathan Statham

- Sub-oestrus associated with impaired ovarian function.
 - Cows with a level of immunosuppression meaning they are frequently ill with secondary conditions and so harder to get back in-calf.
 - Weak and sickly calves being born which do not thrive, and may die.
- "Vets and farmers have understood for a while BVD causes direct damage to the

embryo resulting in early embryonic death and irregular returns," Mr Statham says.

"Later in pregnancy, it may cause foetal mummification and abortion. However, work has also shown uterine inflammation and ovarian dysfunction may also contribute to cows taking a longer time to conceive as well as failure to conceive.

"This effect may be occurring much earlier than is often assumed. High antibodies consistent with BVD at 10 months of age have been associated with it taking 32 days longer to conception when compared to heifers with low levels of BVD antibodies," he says.

"There is also evidence acute infection with BVD influences progesterone production during the oestrous cycle in cattle. Progesterone level is important in supporting the survival and growth of embryos; lower levels are associated with reduced survival."

Virus exposure

How the infected cow is affected

is largely determined by when she is exposed to the virus, in relation to when she is served and becomes pregnant:

- At breeding – Low conception rates if from service and early embryonic death and in the first month of gestation.
- Days 42-100 of gestation – Foetal death can occur.
- Days 30-110 of gestation – If the foetus survives it will result in a Persistently Infected (PI) calf which becomes an ongoing source of infection to other cattle.
- Days 100-150 of gestation – Congenital defects/abortion.

Many herds will experience the delivery of a PI calf, which was exposed to the virus while in utero, yet is still born live and is capable of surviving and growing. PI calves tend to be born to cows which were exposed to the virus from 30-110 days of gestation (see above).

These animals are the most commonly recognised source of infection in a herd, capable of spreading virus to cows at all stages of pregnancy as well

as calves and as youngstock.

Although often assumed to be unthrifty to look at, some PIs will appear healthy, grow and manage to deliver a live calf themselves. These calves will always stay infected and, if they do get pregnant, they will always produce PIs.

Spotting disease

"Many people think BVD is difficult to spot, but BVD is a disease associated with lots of small signals, especially in the reproductive system," Mr Statham says.

- Key BVD-related indicators –
- Abortions and premature births.
 - Stillbirths.
 - Birth of weak or dummy calves
 - Congenital birth defects, especially hindbrain and eye-related.
 - Birth of small calves with poor growth rates.
 - Increased levels of calf diarrhoea and pneumonia associated with immunosuppression and secondary infections.

"Accurate pregnancy diagnosis and re-scanning later in preg-

nancy can determine the level of resorptions or unseen abortion," he explains. "In the case of late abortions, where the foetus is seen, it can be useful to note any identifiable deformities as these can be a supporting clue BVD is implicated."

Most commonly, if BVD is the causal problem, these will be: misshapen head or neck area; malformed limbs; lesions on the skin; small size.

"Stock bulls are also a hugely underestimated risk in BVD transmission. Although a PI bull may be created in the same way as a PI heifer, bulls with acute and therefore transient infections may actually shed virus in their semen for several months post-infection," Mr Statham warns.

"As with all cattle health issues, the advice is to work with your vet to establish the disease status of your herd and develop a management and control programme accordingly," he says.