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BVD - THE DISEASE

What is the cause of BVD?

BVD is caused by Bovine Viral Diarrhoea virus (BVDV). Viruses are extremely small infectious organisms. 1ml of blood from an infected animal may contain more than 1 million infectious viral particles. Persistently Infected (PI) cattle animals excrete extremely high levels of the virus continually throughout their life. The infectious dose for calves is less than 500 virus particles.

How long will the virus survive outside the animal?

BVD virus is relatively fragile and will not survive for extended periods outside the animal. There is little definitive data available but it is likely that infectivity will have disappeared after 3-4 weeks. Damp, cold and dark conditions favour virus survival. Buildings should be cleaned and disinfected to minimise the risk of carry-over of infection, particularly where in-calf stock are present.

Is it necessary for direct contact between animals to spread infection or can it spread indirectly e.g. through equipment?

While purchase of a PI animal (or an animal carrying a PI calf) remain the single biggest risk for introduction, it is possible for the virus to be transferred between animals and between herds by indirect means. PI animals shed virus in all secretions and excretions, including dung, urine, milk and colostrum, saliva and discharges from the eyes, nose and reproductive tract. Movement of these substances between farms, or clothing or equipment contaminated by them are also potential means of transferring and introducing the virus. This could occur via large items of equipment such as machinery or smaller items such as calving aids or nose tongs. All such items should be thoroughly cleansed and disinfected to minimise the risk of transmission in this way.

Will a bull calf have the same amount of BVD virus as a female calf?

Any calf, whether male or female, that is exposed to virus as an unborn calf between the second to fourth months of pregnancy will be born PI, if it is not aborted. PI bull calves will carry the same level of virus in their bodies as heifers and will shed virus at a similar level. If these PI bull calves survive to adulthood they will shed virus in their semen, providing a very efficient means of transmission to susceptible female animals.

Can BVDV be transferred to humans?

There is no known health risk to humans from the BVD virus.

Is wildlife affected by BVDV?

Wild ruminants are also susceptible to BVD virus. This includes both wild deer and goats. Limited studies carried out at the Central Veterinary Research Lab in Dublin indicate that the level of exposure of wild deer in the Republic of Ireland to BVD virus is low and they are considered to represent a low risk of infection to cattle. Wild ruminants have not been considered to be a major source of infection for cattle in successful eradication programmes run in Scandinavian countries. Therefore, it is believed that wild deer are likely to pose a low risk to cattle in N. Ireland.

Does BVD affect sheep and goats?

Small ruminants including sheep and goats are susceptible to infection with BVD virus. In addition, they may also carry a related virus known as Border Disease virus (BDV) which causes similar clinical signs. Two separate Irish studies have shown that the level of infection at flock and animal level with BVDV and BDV in sheep is much lower than is present in cattle, and indicates that the pressure of

infection is from cattle to sheep rather than from sheep to cattle. Nonetheless co-grazing of sheep with cattle does present a low risk for transmission of infection.

If an animal tested negative for BVD virus and was sold, can that animal pick up virus during trade?

A negative test result for a given animal for BVD virus, is consistent with that individual not being persistently infected (PI) with BVD. Should that animal come into contact with the virus at any stage, during trade or otherwise, then it would become transiently infected (TI) for a short period before clearing the infection and becoming immune. TI animals are much less efficient transmitters of virus than PI animals, but nonetheless can transmit the virus infecting other animals. In addition, if the animal becomes TI during early pregnancy it is likely to produce a PI calf. Where there is a possibility that purchased animals may have been in contact with BVD virus at or immediately prior to, the point of sale, then it is recommended that they are isolated for a period of 3-4 weeks after purchase. It is particularly important to keep them separate from pregnant animals. Where a pregnant animal is purchased this animal should be kept isolated until she has calved and her calf has returned a negative virus result on testing.

If all of my calves test negative this year, does that mean that next year's calves are automatically clear?

No; a negative result for all calves in a given year is consistent with none of the cows that produced the calves being persistently infected (PI). However, it is possible that one or more cows could be exposed to virus during the next pregnancy and undergo transient infection. If this occurs between approximately 30 and 120 days of pregnancy, then the resulting calf will be PI. For this reason, it is necessary to test calves born each year of the programme to ensure infection has not been introduced.

Since 1st March 2016 BVD has been subject to Legislative Control - what are the implications of this?

The Bovine Viral Diarrhoea Eradication Scheme Order (Northern Ireland) 2016 requires all herdowners to 'Tag and Test' all calves born on or after 1st March 2016. On NIFAIS, only animals that have a negative BVD test result are permitted for movement to other holdings, markets or Export Assembly Centres. Animal test declarations can be downloaded and printed from the AHWNI website (www.animalhealthni.com). Untested cattle are not permitted to go for slaughter.

Since 8th November 2023 BVD has become a notifiable disease – what does this mean?

A responsibility to notify BVD falls on anyone who suspects or detects the disease, whether a farmer, veterinary practitioner or a member of staff working in a relevant testing laboratory. Prompt notification of the positive result (whether as a result of diagnostic testing following a disease investigation or confirmatory blood testing) will assist in the early identification of new outbreaks, allowing tailored advice to be given to the herd owner at the earliest opportunity.

How long should I wait before spreading slurry from positive animals?

There is no definitive answer on how long the virus survives in slurry. In practice, the longer it can be held before spreading the better. In the environment the BVD virus is not particularly robust so 4-6 weeks should see a large reduction in the level of live virus present. There will also be further decline in virus levels after spreading. It would be advisable not to graze pregnant cattle on treated ground for as long as possible, but any risk to animals of acquiring infection should be significantly reduced after two months.