

Local/National BVD eradication schemes

- There are a number of regional BVD eradication schemes (eg. Orkney) as well as a Scottish Government scheme to eradicate BVD from Scotland.
- Joining a BVD cattle health scheme is one way of ensuring all testing is done on a formal basis with clear pathways to follow. The entry level only requires monitoring of representative animals for BVDV antibody to determine the BVD status of the herd. There are several schemes available in the UK, and all follow the rules within the technical document of the Cattle Health Certification Standards (CHeCS). More information can be found on the CHeCS website: www.checs.co.uk

Any BVD control programme should be discussed thoroughly with your own vet

If you would like more information contact our office or visit our website.



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BOVINE VIRAL DIARRHOEA (BVD)



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What is it?

- Bovine Viral Diarrhoea (BVD) is considered to be one of the most important cattle diseases worldwide.
- Surveys have shown that over ¾ of UK dairy herds have evidence of infection.
- Although initial infection with BVD is often unseen with only mild clinical signs, the costs of a herd being endemically infected with BVD can soon mount up due to abortions and ill-thrift.
- SAC costings calculated the typical costs of BVD infection to be £21 per cow (dairy herd) and £38 per cow (beef herd) in endemically infected herds.

Symptoms

In a mild primary infection, symptoms may not be noticed

- Transient diarrhoea
- Mildly elevated temperature, drop in milk yield
- Infertility and abortion
- Increased susceptibility of calves to scour and pneumonia.
- Birth defects in calves including cataracts, incoordination and other brain defects.
- If the mother is infected in the first 110 days of pregnancy, the calves will be born Persistently Infected (PI) with BVD virus. Such PI calves will appear normal, or may be ill-thriven.
- PI calves may also go on to develop Mucosal Disease. Symptoms include high fever, severe diarrhoea, ulcers in the mouth as well as occasionally on the tongue and coronary band of feet; small widespread haemorrhages may also develop in the mouth. Cases of Mucosal Disease tend to happen after periods of stress (such as turnout for the first time). Mucosal Disease is fatal.

What causes it?

- A pestivirus closely related to viruses causing Border Disease in sheep and Swine Fever in pigs
- Persistently Infected (PI) animals are the most important factor in the spread of this disease. These PI animals shed the virus from nasal discharges, urine and aerosol droplets.
- Infection of a pregnant cow who is naïve to BVD during the first 110 days of pregnancy will most likely lead to the birth of a PI calf. Such a PI animal is usually born with no other abnormalities, but will excrete BVD virus all their lives infecting other cattle.
- Other routes of transmission are from contaminated equipment/clothing, semen from transiently infected (or PI) bulls, blood sucking insects and also other species such as sheep and deer which can carry the virus.



Identification and removal of Persistently Infected animals

- All PI animals produce vast amounts of virus, and so represent a source of infection for other animals. They need to be identified and removed as soon as practical from the herd.
- In dairy herds, a bulk milk tank PCR test can be used to test for the presence of a PI animal in the milking herd.
- Blood sampling 5 – 10 unvaccinated youngstock or 1st lactation heifers can also be used to identify the presence of active circulation of BVD infection within the group or herd.
- If active BVD infection is identified within the herd, then it is necessary to test all animals within the group to see if they are Persistently Infected. Any PIs should be removed as soon as practical.

Diagnosis

- Testing for BVD is most commonly carried out on either blood or milk samples, for either antibody or virus antigen.
- BVD antibody levels show the animal has come in contact with BVD through infection or vaccination, but it is not a PI.
- BVD antibody bulk milk tank testing in dairy herds can rapidly screen for the presence of infection.
- Testing of at least five unvaccinated age cohorts (eg. youngstock or first lactation heifers) for BVD antibody will tell if there is active ongoing infection within the herd.
- The presence of virus antigen shows that the animal is at that time infected with the virus, either due to an initial primary infection or it is a PI.
- Testing for virus antigen cannot be done reliably on blood samples from calves under 3 months of age, due to maternally derived antibodies ingested via colostrum just after birth.
- In young calves, a plug of ear tissue taken from calves at tagging can be used to test for virus.
- In dairy herds, a BVD Bulk Milk PCR can detect the presence of virus. The test can detect PI's (or acutely infected cows) from a bulk milk sample of

Treatment

- As the infection is caused by a virus, there are no specific treatments which directly affect the course of the disease. Symptomatic and supportive treatments are useful to aid recovery.
- There is no treatment for PI animals and they should be culled to prevent any spread of infection.

Biosecurity

- Buying in cattle represents the main method of introducing infection into the herd (eg. replacement heifers, stock bulls that are PIs).
- The herd history (and status if known) that the purchased animal is coming from should be established as far as possible.
- Routine quarantining of all purchased cattle is recommended for a period of at least 4 weeks. Blood samples should be taken to ascertain individual animal BVD status before entry into the main herd.
- Nose-to-nose contact via neighbouring stock also risks introducing infection into the herd. Minimise such risks by double fencing or making sure that stock are not kept in adjacent fields.
- There are a number of BVD accreditation schemes using CHeCS standards. If possible, buy replacement stock from accredited BVD-free herds.

Vaccination

- In herds where potential sources of infection cannot be excluded, vaccination should be considered, although no vaccine can guarantee 100% protection.
- There are a number of BVD vaccines, to be used according to manufacturer's recommendations.
- All breeding stock should be vaccinated prior to service.
- Booster vaccinations are required at least annually to maintain effective immunity.
- Vaccination of PI animals will NOT have any effect on virus shedding, and so it is important that such animals are identified and removed prior to a vaccination program starting.