Why should I test for Bovine Virus Diarrhoea (BVD)?

A. BVD is classed as one of the most economically damaging cattle diseases. Infection with the virus causes suppression of the immune system, increasing susceptibility to other infections such as mastitis or pneumonia. It is, however, one of the easier diseases to eradicate and initial investigation does not involve great expense. It usually begins with a check test of 10 animals between 9 and 18 months for BVD antibodies.

Do I have to cull antibody positive animals?

A. No. Unlike the other CHeCS diseases, animals that are antibody positive are animals that have developed natural immunity to the disease. In order to eradicate BVD, it is the virus positive animals we want to cull.

How do Persistently Infected (PI) calves arise?

A. Persistently Infected (PI) calves are animals that continuously shed virus throughout their lifetime. PI calves arise when in calf animals are exposed to BVD virus in the early stage of pregnancy. The dam is able to develop a good antibody response to the disease but the foetus is unable to do so.

What should I do with PI calves?

A. PI calves should be removed from the herd and culled as soon as possible.

What are the risks?

A. The main risks involved in the creation of new PI calves are:

1. In-calf animals coming into contact with BVD virus in early pregnancy

2. Antibody positive bulls can carry virus in their semen for up to 9 weeks after infection

When do I test for antibody and virus?

A. In a herd with a BVD problem, animals that have low or negative antibody levels should be tested for virus.
Q Why do we only need to test 10 youngstock?

A. Testing 10 youngstock gives a good indication whether there is active infection in the herd or not. BVD infection spreads easily and the presence of a PI animal leads to antibody production in in-contact animals.

Q What are the different tests used and when do I use them?

A. If there is evidence of active infection in the herd, then further testing may be required to identify the source of infection. Testing to identify PIs can be conducted at any age but the test used will depend on the age of the animal.

There are basically 4 different ways of testing for BVD.

BVD Antibody ELISA (blood/milk) – This test is used to establish whether the animals have been exposed to BVD or not. The test may be used on animals of any age but it should be appreciated that positive results in young calves may be due to residual maternal antibody.

BVD Virus ELISA (blood) – This test is used to establish whether the animal is a PI or not. Test may be used on animals of any age but because residual maternal antibody may interfere with virus testing, it is better to test animals under 3 months of age using PCR or BVD virus ELISA (ear tissue), see below.

BVD Virus ELISA (ear tissue) - This test is used to establish whether the animal is a PI or not. Test may be used on animals of any age but is particularly useful in animals under 3 months of age where virus results on blood are not reliable.

BVD PCR (blood/milk) – This test is used to detect virus and is more sensitive than BVD Ag ELISA. It can be used on animals of any age but is particularly useful on young animals under 3 months of age. It can also be used on bulk milk samples to determine whether a PI animal is present in the milking herd or not.

In summary

Test a sample of youngstock for antibody first to establish if further testing for PIs is required.

If the presence of one or more PI animals is suspected, test for virus as follows:

0-3 months – virus testing using PCR or ear tissue ELISA

3-9 months – virus testing using blood or ear tissue ELISA

> 9 months – test for BVD antibody by ELISA on blood or milk; test animals with low/negative antibody results for virus by ELISA - this is the most economical way to proceed.
Q  Can I vaccinate and go for accreditation?

A. Yes. For accredited status we are concerned with active BVD infection and therefore usually test animals between 9 and 18 months of age, which have not been vaccinated. If these animals test negative for antibodies to BVD, they may later go on to get vaccinated.

Q  Can I vaccinate my show team?

A. You may wish to consider vaccinating your show team if they are antibody negative. We would normally suggest isolating the show team on return from the show for 28 days. The animals should be tested at the end of the quarantine period. Ideally, the antibody status of the show team should be known before leaving the farm. It is important to protect in-calf animals that are going to show.