

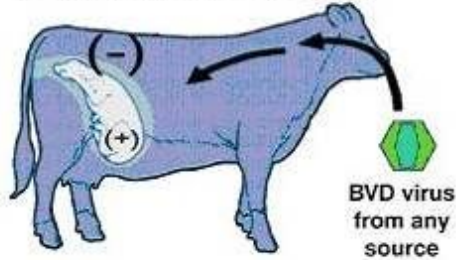


BVD Testing

The Disease

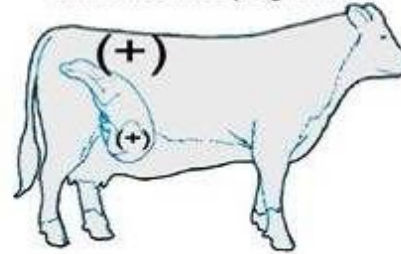
More common route
(Over 90%)

Susceptible pregnant female
(non-PI) infected with BVDV at
about 1½–4 months of gestation.



Less common route
(Less than 10%)

BVDV persistently infected (PI)
female becomes pregnant.



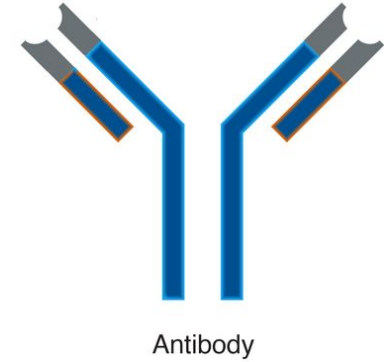
BVDV persistently infected (PI)
calf is produced.



PI calf

The Two Tests

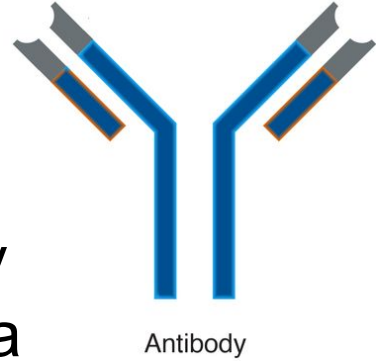
1. BVD Antibody



2. BVD Antigen/Viremia



An Antibody



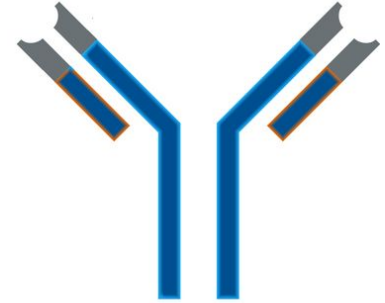
Antibodies are produced in the bloodstream by the animal as part of the immune response to a disease

After the animals initial contact to a BVD virus, it takes roughly 3 weeks to produce antibodies

These antibodies remain in the bloodstream for a lifetime

BVD Antibody Test -

Introduction



Antibody

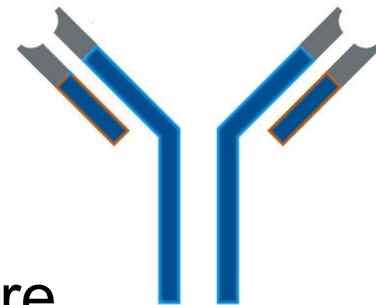
Antibodies are found in animals that have been **transiently** infected by BVD at some point in their lifetime

The best way to find out if there is BVD in your herd is to blood test roughly 5 home bred animals for BVD antibodies when they are **9 to 18 months** old



BVD Antibody Test -

Negative Result



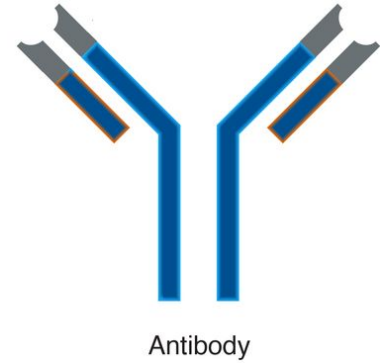
Antibody

If the results are all negative then it is likely that there are **no animals** in your herd carrying the BVD virus

In this case it is recommended to **vaccinate cows** annually pre-service as BVD could be introduced to your herd at any time

It is also good practise to blood test **home bred, 9-18 month animals** annually to ensure the herd remains BVD free

BVD Antibody Test - Positive Result

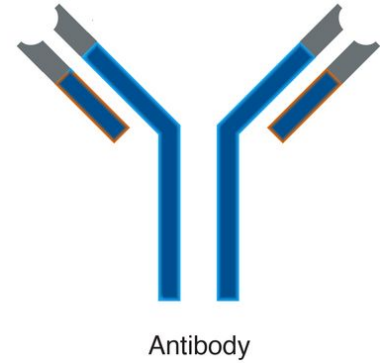


Possible causes for a positive result:

1. There is at least one animal in the herd that is a **PI**
2. These animals may have escaped and been in contact with a **PI** from an external source
3. A **PI** from an external source could have broken in
4. The BVD virus can exist in slurry for roughly 2 weeks and therefore biosecurity is important
5. Sheep and Deer have been known to carry the virus however this is generally considered as extremely low risk



BVD Antibody Test - Positive Result

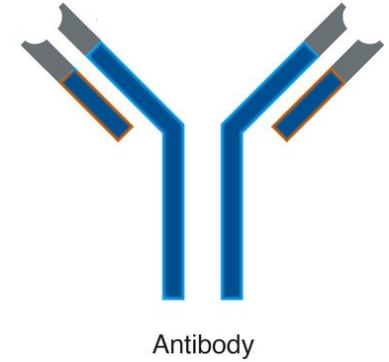


It is recommended to **vaccinate cows** annually pre-service as some cows in your herd are still likely to be BVD antibody negative and these cows will produce **PI** calves if they become infected in early pregnancy

There are a few vaccines available, these options need to be discussed with your vet to ensure the correct approach is carried out

The Two Tests

1. BVD Antibody



2. BVD Antigen/Viremia

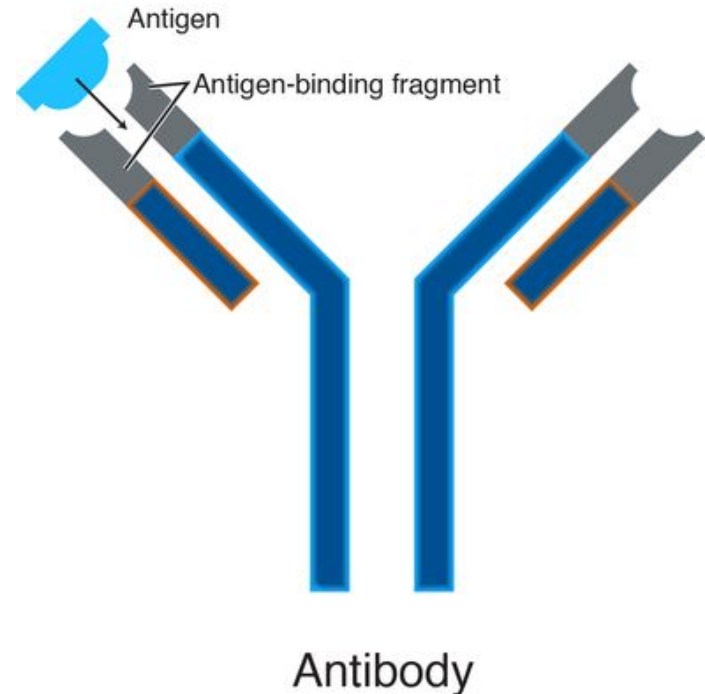


An Antigen



An antigen is a protein found on the virus which is unique to that virus

It **normally** induces an immune response by the animal in which case antibodies are produced to combat the disease



BVD Antigen Test - Introduction



If the embryo is infected before it is born it is not capable of producing antibodies and therefore born as a **PI** (Viremic)

Some PIs die before birth, some are born weak, some appear normal and may die at a later stage

Some grow normally to become a cow and remain a **source of infection** in the herd

BVD Antigen Test



If the BVD antigen can be identified in the animal then this will confirm that it is carrying the BVD virus

There are two BVD Antigen Tests:

1. Tissue Test - Carried out on newborn calves by the farmer by number tagging or with a management tissue tag on any animal at any age
2. Blood Test - Carried out on animals over 4 weeks old

BVD Antigen Test - Tissue Test



A tissue test will identify if a newborn calf is a PI, if it is positive then the mother will need to be tested incase she is a PI

The mother can either be tested by a management test tag or blood tested - both tests are very reliable

All purchased stock less than 4 weeks old need to be antigen tested using a management tissue tag on arrival, these also should be isolated until knowledge of results

The benefit of a tissue test is that it can be carried out by the farmer on individual or small groups of animals of any age



BVD Antigen Test - Blood Test



A blood test will identify if an animal over 4 weeks old is a PI

All groups of purchased stock more than 4 weeks old need to be blood tested

Incoming bulls should always be tested before hire or purchase

The blood test is a cheaper option for larger groups of animals

Where BVD is found to be causing significant problems on the farm blanket testing all young/ beef stores is recommended in order to identify and eliminate PIs quickly



BVD Antigen Test - Negative Result



Animals that have a negative antigen test are not and will never be **PIs**

They may become transiently infected and during this short period be infectious to other animals - this can happen at market and therefore biosecurity and isolation are important

After a transient infection antibodies will persist in their bodies for their lifetime

Annual vaccination of cows pre service is recommended even when a herd becomes BVD free as there is always a risk it will return, as previously stated

BVD Antigen Test - Positive Result



A positive result will confirm that the animal is carrying the BVD virus

This can be for two reasons:

1. It has a transient infection
2. It is a **PI**

All positive animals should be isolated and retested 3 weeks later, if this test is also positive then the animal is confirmed as a PI and removed from the herd

If the result is negative after 3 weeks then an antibody test should be performed to confirm that the infection was transient



Summary -

To become and stay BVD free

Tissue tagging calves for at least two years and eliminating PIs from a herd combined with vaccination and strict biosecurity will enable a farm to become BVD free

When BVD free ongoing annual vaccination of breeding stock and monitoring young stock is important to maintain BVD free status

Additional Resources can be found at:

<https://bvdfree.org.uk/>

<http://www.checs.co.uk/>