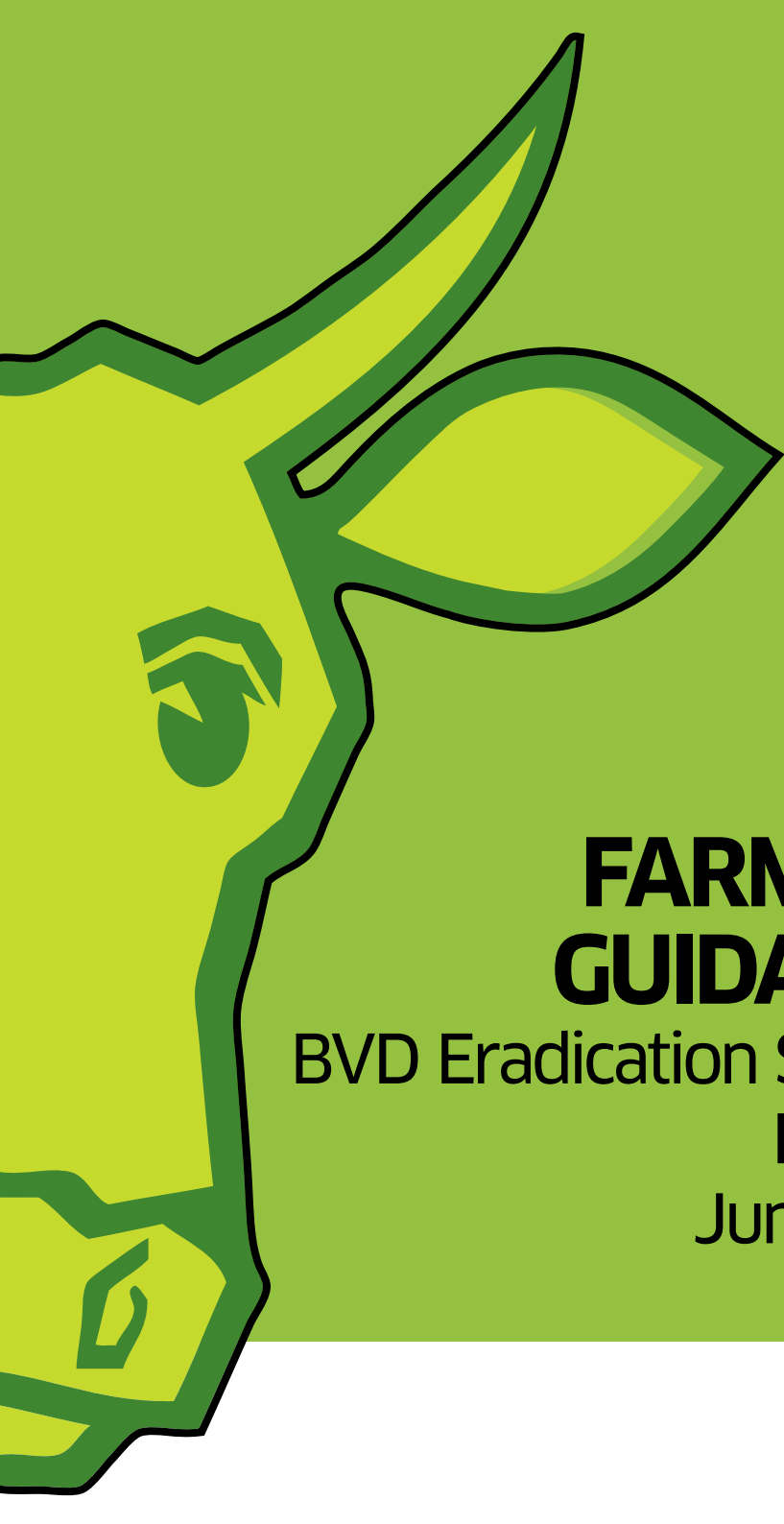




The Scottish  
Government  
Riaghaltas na h-Alba



# **FARMERS' GUIDANCE:**

BVD Eradication Scheme

Phase 4

June 2015

## KEY POINTS

### TEST YOUR HERD

#### Breeding herds

You must continue to test your herd **every year** using one of the approved testing methods, please be aware **the number of testing options available has been reduced to three for herds with a 'negative' BVD status and two for herds with a 'not negative' status.**

- **Do not move BVD virus positive animals other than directly to slaughter.**
- **Do not move animals from a herd with a 'not negative' status unless individually tested for virus.**
- **Test any animals you bring into your herd from an untested herd.**

#### Non-breeding herds

Any calf that is born into the herd must be tested for BVD virus by ear tissue tag test within 40 days of birth, or before it is moved if this is sooner than 40 days from birth.

**This guidance is designed to be a general guide to help you meet the requirements of the law in relation to BVD.**

## **WHO SHOULD READ THIS?**

Every cattle keeper in Scotland. It is particularly important for cattle keepers who manage breeding herds.

## **WHAT IS THIS GUIDE FOR?**

This guide explains:

- What you **must do** to comply with the new legislation.
- How we are eradicating BVD in Scotland.
- What your results from the screening test mean.
- What BVD (bovine viral diarrhoea) is and how it works.

### **DO I NEED TO READ IT ALL?**

No, although the whole document contains useful information and advice, it is particularly important that you read the **Key Points** on the previous page.

**PART 1:** What the BVD order means for you

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**PART 2:** Updated testing methods

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**PART 3:** Your test result and herd status

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## **BACKGROUND INFORMATION**

The Scottish Government is supporting an ambitious industry-led scheme to eradicate Bovine Viral Diarrhoea (BVD) from Scotland. This has been developed in partnership with representatives from the livestock industry, veterinary profession, science sector and government. BVD is one of the most important diseases of cattle in terms of economic cost and welfare, causing abortion, infertility, failure to thrive and often death. BVD control is centred on the identification of BVD Persistently Infected (PI) animals and the removal of these cattle from the herd. PI animals shed virus throughout their life at high levels.

The Scottish BVD eradication programme is designed to, over a period of years, exert increasing pressure to ensure PI cattle are identified and removed to slaughter. Measures are also being introduced to reduce the risk to BVD-free herds. It is already an offence to move a known PI animal other than directly to slaughter in order to prevent the spread of the virus.

**A new phase starts on 1st June 2015 which places movement controls herds with a 'not negative' status. This should prevent the movement of untested PI animals. Phase 4 also requires that animals from untested herds are tested upon entering a herd to prevent the disease being unknowingly brought in.**

## **WHAT THE BVD ORDER 2013 MEANS FOR YOU**

This section describes what you must do to comply with the legislation. Failure to comply is not a cross-compliance issue and will not affect your CAP payments, but it would be a criminal offence under the Animal Health Act 1981.

A breeding cattle herd is a herd in which:

“breeding is expected to take place and no steps are taken to prevent or minimise the chances of such breeding”

Source: The BVD Order 2013

### **Annual screening requirement**

#### **If you have a breeding herd:**

- Screen your herd for BVD using one or more of the acceptable testing methods listed in Part Two. There are two options available for ‘not negative’ herds and three for ‘negative’ herds.
- Arrange with your vet for samples to be sent to an approved laboratory.
- If your herd result expires or if you have failed to test, your herd status will be changed to ‘not negative’ and fall under movement restrictions.

## **If you have any other type of herd you must:**

- Test any calves that are born within 40 days of birth or prior to moving them by submitting sample(s) to an approved laboratory (listed at [www.gov.scot/bvd](http://www.gov.scot/bvd)).

## **Persistently infected (PI) animals**

The key to the success of the Scottish BVD eradication scheme will be to identify and remove PI animals from the cattle population. PI animals shed high levels of virus throughout their lives and are the main source of the disease. **Any animal that tests positive for BVD virus can only move directly to slaughter.**

If your animal tests positive for BVD virus it is likely to be a PI, however a second test should be carried out after a period of no less than three weeks to rule out the possibility of a transient infection.

You must not move an infected animal in any manner which would risk the spread of infection to any other bovine animal, other than those also being transported to slaughter. Therefore, **BVD virus infected animals may not pass through a market or any other holding. They must go direct to slaughter.**

The laboratory will inform the keeper and the Scottish Government each time an animal tests positive for BVD virus, and we will know through movement records if a virus positive animal is moved to another holding or through a market.

Any calf that is born to a BVD PI mother is assumed to be PI on the basis that a PI mother will always give birth to a PI calf. Therefore, **you must not move the calf of a BVD PI mother other than directly to slaughter.**

### **Persistently Infected cattle (PIs)**

PI animals are the major source of BVD virus infection. They will have the virus all their lives and spread it in huge quantities.

There are two ways a PI calf can be born:

- 1) A normal healthy cow or heifer becomes infected during the first 120 days of pregnancy.
- 2) A PI Heifer or cow becomes pregnant.

Many PI animals will die within the first year of life, but some can live much longer and may appear normal.

### **Transiently infected cattle**

Cattle infected with BVD virus after birth are transiently infected and will normally recover in around four weeks, but do suffer from a reduced ability to fight other infectious diseases and are likely to have impaired fertility until they recover.

## From 1st June 2015

### **‘Not negative’ herds**

A ‘not negative’ herd is a breeding herd which has been tested and shown signs of exposure to the disease. Any breeding herd where the test result has expired or has never been tested will also be treated as ‘not negative’ for the purpose of the legislation.

From June 2015 you will not be able to move any animals from a ‘not negative’ herd unless they have been individually tested and found negative for the virus.

If you have a ‘not negative’ status you will only have two testing options available to you, either to individually test all animals in your herd for the BVD virus or to test all calves born.

If your herd has been given a ‘not negative’ status by your laboratory this is an indication that your herd has been exposed to the BVD virus. You may have PI animals present in your herd and therefore further work is required to find and remove any persistently infected animals that may be present.

Only if you have a ‘not negative’ status as a result of an expired ‘negative’ test or from using a bulk milk tank test may you use any of the three options available to get a new herd status.



## Individually tested animals and assumed status

Animals which have been individually tested for the BVD virus will have a result of either positive or negative.

If they are negative, these animals are able to move because a negative animal can **never** become PI.

Phase 4 will introduce an assumed status for some animals. The mothers of any individually negative animals are also safe to move. A PI mother cannot give birth to a virus negative calf and therefore if **a calf is BVD virus negative its mother will have an assumed individual status of BVD virus negative.** If you have to individually test animals to move them, where a calf has a negative result, the mother will be given an assumed negative result and can also move.

If the result is positive the animal is a suspect PI, it cannot move other than directly to slaughter. A PI mother can only give birth to a PI calf and therefore **any calf born to a PI cow will be assumed to be PI** and cannot move other than directly to slaughter. You should retest any positive animal after three weeks to ensure that the animal was not suffering from a transient infection.

## Bringing new animals into your herd including imports

If you purchase cattle from a Scottish breeding herd, this should already have a negative status; to be sure of this you should look up the BVD herd status on the ScotEID website. If you are purchasing cattle from a non-breeding herd or from outside Scotland the BVD status of these animals is unknown. Therefore, you should isolate these animals and individually test them for the virus using either a blood or a tissue test as soon as they arrive on your holding. If you do not individually test these animals your BVD status will become 'not negative'.

## The ScotEID website and BVD lookup

The ScotEID website at [www.scoteid.com](http://www.scoteid.com) is the central point at which all BVD results can be found. All approved laboratories report their results directly to ScotEID.

The screenshot shows a web browser window with the URL [http://www.scoteid.com/scoteid/index.php?page=scotid/bvd\\_tests/lookup](http://www.scoteid.com/scoteid/index.php?page=scotid/bvd_tests/lookup). The page title is "LIVESTOCK TRACEABILITY EID RESEARCH". On the left is a navigation menu with sections for "Navigation" (Home, Keeper Details, Log out), "Sheep" (Investigate Tag, Keeper Guidance, Sheep Records, Upload EID Data, Visually Record Data, Incomplete Uploaded Groups), "Pigs" (Pig Movements, Record Pig Move, Keeper Guidance, BPEX Activity), and "Cattle" (BVD status lookup, Help, BVD Guidance). The main content area is titled "BVD status lookup" and includes links for "Help Page" and "View BVD tests". It contains two input fields: "Animal Holding (CPH):" with a dropdown menu showing "UK" and "Animal ID:". Below these is a "Query Database" button. A note on the right states: "Note: Categories do To ensure the correct status of an individual animal you should enter both its holding and ID". At the bottom right are "Cancel" and "Save" buttons. A "Notes" section is also visible.

You can check your herd status at any time by entering your CPH number in the database search box. If you do not have a herd status, please contact your vet or laboratory to get this resolved.

The BVD status of any holding or animal can be determined by entering the County Parish Holding (CPH) number of animal ID into the BVD look up page on the ScotEID website. To prevent your herd from becoming infected, the status of every animal should be checked before it is introduced into your herd.

Only 'negative' status animals should move. Do not jeopardise your own status by purchasing animals from a 'not negative' herd unless they have been individually tested for BVD virus.

If you register with ScotEID you will be able to quickly see the BVD results for every test, and the individual status of every animal on your own holding.

For 'not negative' holdings only those animals which have an individual negative BVD status may be moved. So for these holdings it is particularly important to check the individual status of each animal. If you notice any discrepancies in the data please contact the responsible laboratory or the BVD helpline to resolve the issue.

Help on how to use the BVD look up is provided on the website or through the BVD helpline on **0300 244 9823**.

### UPDATED TESTING METHODS

#### MANDATORY ANNUAL SCREENING METHODS FOR BREEDING HERDS WITH A 'NEGATIVE' STATUS

If you currently have a 'negative' status you can continue to do a check-test which will indicate if BVD may be present in your herd. You must test a minimum of annually, your vet will advise you on how frequently and what groups of animals you should test. You have 12 months from your test date to test your animals again. Your vet will be able to provide you with further advice about which of the three methods should be used and whether it is appropriate to test for antibodies to BVD or BVD antigen/virus.

##### ***0. NEW – The dairy check-test – for year round calving 'negative' herds.***

The standard check-test is appropriate for herds that have distinct calving periods. In dairy herds that calve all year round it can be difficult to ensure that the heifer groups are surveyed properly. To ensure that exposure is detected in these herds more animals must be sampled more frequently. If you have a dairy herd that calves all year round, your vet should blood sample not less than **ten calves** between the ages of **9-18 months** the youngest and five oldest unvaccinated cattle within each group. This test must be carried out twice per year at roughly six months apart, more than seven months apart will indicate an expired test result. If you have a dairy herd that calves in distinct seasons you can use the normal check test providing all separate groups are tested.

The number **0** has been allocated for the dairy test in order that the database can recognise that the dairy check-test has been used.

## **1. Sampling calves – the check-test**

Whenever possible use option (a). Where this is not possible, perhaps as a result of animals leaving the herd before the age of nine months then options (b) and (c) should be followed in order. Before deciding to do a check-test, speak to your vet to identify how many groups you have in your herd. If you calf twice per year you may need to test your herd twice per year. Your vet will decide how many animals need to be tested and will also advise on how best to test herds with very low numbers of cattle.

### ***(a) Five calves aged 9-18 months***

Take samples of blood from not less than five calves in the age range **9-8 months** in each **separate group** (see p.16 for more information). If you have less than five animals in this group you should discuss with your vet whether or not it is appropriate to test less than five animals in this category.

### ***(b) Ten calves aged 6-18 months***

If any of your sample of calves are aged 6-9 months, then take a sample of blood from not less than ten calves in the age range 6-18 months in each separate group. If you have less than ten animals in this group you should discuss with your vet whether or not it is appropriate to test less than ten animals in this category.

**Shetland only:** in recognition of the successful eradication of BVD from Shetland, you may take blood from not less than five animals in the age range 6-18 months. If you have less than five animals in this group you should discuss with your vet whether or not it is appropriate to test less than five animals in this category.

### **(c) Five homebred animals over 18 months**

If you have fewer than ten calves aged 6-18 months, then and only then, and on your vets advice, you may choose to use the following method:

Take a sample of blood from not less than five animals over 18 months that have been on the **holding since birth** in each **separate group**. If you have less than five animals in this group you should discuss with your vet whether or not it is appropriate to test less than five animals in this category.

### **Vaccination and the check-test**

Animals vaccinated against BVD may test positive for antibody to BVD virus. For this reason vaccinated animals should be excluded from the check-test whenever possible. If it is not possible you must let the laboratory know the vaccination details. If animals test positive for antibody to BVD then it will be assumed that they have been exposed to infection. It is therefore important to sample for the check-test before animals are vaccinated against BVD.

## **MANDATORY TESTING METHODS**

### **FOR BREEDING HERDS WITH A 'NOT-NEGATIVE' STATUS**

#### **2. Calf Screen – Test all calves**

Individually test all calves born in the herd within the year for virus by blood or tissue sample. You can test the calves as they are born or all at once. Ear tissue tag testing is a useful way to do this.

*It is up to the farmer to declare that all calves born within a year have been tested. We will monitor this against BCMS to ensure that no false claims have been made. You must test all calves that are registered as born on your holding. It is also advisable to test any animals that do not produce a live calf or abort a foetus to ensure these are not persistently infected.*

## Ear tissue tags

Ear tissue tags are designed to take a tissue sample from the ear whilst tagging the animal. The tissue goes into the labelled capsule when the animal is tagged, which is then snapped off and sent to the laboratory.



If you want to purchase ear tissue tags then contact your usual ear tag supplier. If they do not stock them they should still be able to direct you to somewhere that does. It is highly recommended to use those that are also official ID tags. Always make sure you use the correct applicator for the tag; some may appear to work with other tags but can apply them too tightly.

### ***3. Whole herd screen – Test all animals in the herd***

This is the most thorough test and should be considered for herds which have had one or more screening tests that have led to a 'not-negative' status.

Individually blood or tissue sample all the animals on the holding at the same time. This is a test for virus and has the advantage that all the persistently infected (PI) animals (see p.5 for more information) in the herd can be identified and removed. The farmer may choose to tissue tag everything, in which case a vet does not need to be consulted. However, if they choose to take blood samples a vet will need to be involved. If all the animals are negative for BVD virus this will constitute a negative result for that year. In future years, to maintain your status you will only need to test animals not included in the initial screen such as any animals brought in or born. In order to complete this test you can now test all calves and any animal that doesn't have a calf (see p.7 assumed status for details).

### ***Non-breeding herds***

If you do not have a breeding herd then you only need to test for BVD whenever you have a birth in the herd. You must test these animals within the first 40 days of life. If you are testing a calf under one month old you should use an official ID tag that takes a tissue sample – these are available from most ear tag suppliers. If you are testing a calf over one month old you may use a blood test. The sample should be sent to an approved laboratory and tested for virus. You will not be allowed to move these animals until they have been tested and shown to be free of BVD virus.



## **Health Scheme members**

Most herds fully participating in the CHeCS BVD programmes (p.19) meet the testing requirements and so if you are testing for BVD as part of your health scheme membership you should not need to do anything extra, but check with your vet.

### **Testing options summary table:**

**For NOT NEGATIVE herds, only options 2 or 3 can be used.**

No.	TESTING OPTION	DAIRY/ BEEF	TEST FOR ANTIBODY/ ANTIGEN/ VIRUS
0	Dairy with year-round calving 10 animals 9-18 months twice a year	Dairy	Antibody
1a	5 animals between 9-18 months per separate group	Either	Antibody
1b	10 animals between 6-18 months per separate group Shetland and only – test five animals from this age range	Either	Antibody
1c	5 animals 18m+ on holding since birth per separate group	Either	Antibody
2	Calf screen	Either	Antigen/Virus
3	Whole herd screen	Either	Antigen/Virus

**Antibody:** Tests for exposure to the virus

**Antigen/Virus:** Tests for the presence of virus

(see p.25 for more information on antibodies and antigens)

## Separate groups

**The correct identification of each separate group is critical** to the effectiveness of check-testing. A separate group consists of those animals that can freely achieve nose-to-nose contact with all others within the group, for this reason you may have several separate groups within your holding and you may have to sample more than once per year. Your vet should ensure that an appropriate sample of animals has been taken for each separate group on your holding. Housed animals on either side of a central passageway, for example, are separate groups.

PI animals spread the virus very efficiently when in nose-to-nose contact with other cattle. Housing with trough feeding will ensure rapid spread whereas spread will be slower among cattle at grass.

Because BVD spreads so easily it is not necessary to test every animal in every group. Five animals are sufficient providing the following conditions are met:

- All the animals in the group have been together with close contact for at least two months.
- They have had nose-to-nose contact during that period.

You **must** consult a vet when identifying the separate groups in your herd and before choosing the animals to be tested.

## Samples

Samples that either the vet has taken or which you have taken, as a result of doing the ear tag test, will be sent to a laboratory approved by the Scottish Government.

If you want to use either of the methods below:

- Calf Screen: using the ear tissue tag test
- Whole Herd Screen: using the ear tissue tag test

then you must submit the following information with the sample to the approved laboratory:

- BCMS barcode sticker
- Your name, address and postcode
- Your vet practice name and postcode
- CPH number the animals are registered to
- The CPH number for the holding on which the herd is kept
- The date samples were taken
- Which testing method was chosen
- The **full 14 character** official ear tag numbers for all the animals which were tissue tagged.

An example form that you could tear off and use if you want to submit sample(s) to an approved lab is on p.33. If you need more copies of this form please go to the website at: [www.gov.scot/bvd](http://www.gov.scot/bvd).

**You should ensure that the animal ID numbers are correct for the animals you have tested. You can check this using the ScotEID database. Any errors in the animals ID may prevent you moving them.**

## **Laboratories**

There are a range of approved laboratories, the details of which can be found at [www.gov.scot/bvd](http://www.gov.scot/bvd). The laboratory to which you submit your samples will inform you and your vet of your results and pass on your herd status to the Scottish Government. In addition to this they will report individual results for every animal tested for virus. We will presume all cattle that test positive for antigen or virus are PI animals until proven otherwise by a future test.

## **Herd status**

Your herd status must be updated every year. When the laboratory sends you your results, they should inform you of your herd status. It will either be **‘negative’** or **‘not negative’** for BVD. Some laboratories may issue you with a ‘negative’ or ‘not negative’ result based on the samples they have received, to ensure you have an accurate and up-to-date herd status always check the database. If you need help in obtaining a herd status please consult your vet or laboratory. If you have a PI animal in your herd you will automatically receive a ‘not negative’ herd status.

## YOUR TEST RESULTS AND HERD STATUS

The aim of mandatory screening is to establish whether or not your herd has been exposed to BVD and identify those herds that are more likely to be carrying an active BVD infection.

### **My result was 'negative'. What now?**

This is good news as it almost certainly means your herd was free of BVD on the day it was tested. But unless you are vigilant, your herd could become infected.

A good way to keep BVD out of your herd is to join a Cattle Health Certification Standards (CHeCS) scheme. You should speak to your vet about these, or check out the website below for more information about what health schemes are available:

#### **CHeCS – Cattle Health Certification Standards**

Website: [www.checs.co.uk](http://www.checs.co.uk)

Email: [info@checs.co.uk](mailto:info@checs.co.uk)

Telephone: 0845 458 2711

You should protect your herd from the disease. The main ways that your herd could become infected with BVD, are by bringing in infected cattle, by trading or by over the fence contact.

## **Bringing/buying cattle in**

If you buy in cattle, or bring in a bull, you should ensure that you are not bringing BVD into your herd. You can do this in a number of ways:

- Look up the BVD status of the animal and herd from which you are purchasing on the ScotEID website.
- Buy cattle that have an individual virus-free status and are vaccinated or from farms that are CHeCS-accredited BVD-free.
- Avoid buying pregnant animals. Pregnant cattle may be carrying a BVD virus positive calf (PI) that cannot be tested until it is born.
- Only use bulls that are individually certified virus-free and vaccinated. If not, isolate, test for virus and if the test is negative then vaccinate.
- If you use artificial insemination, ensure that the bull providing the semen was tested to be free from BVD virus.
- Isolate any cattle you bring in, that are of unknown BVD status, from the rest of your herd and have them tested for virus. Only put them into your herd once you know they are clear.
- Contact your vet for further advice.

## **Trading**

You can still trade as normal but are encouraged to do so responsibly, such as checking the database to ensure you do not buy in animals from a 'not negative' herd.

## **Over the fence**

BVD can be spread by nose-to-nose contact across fences. If there are cattle neighbouring your farm and you don't know their BVD status you may want to ensure there is a three metre gap that prevents nose-to-nose contact between the two herds. If you have concerns you can check any herd status on the database if you know the CPH.

## **Shows**

Animals travelling to shows should be individually tested free from the BVD virus or be from a CHeCS accredited herd. It is advisable not to take pregnant animals.

## **Vaccination**

Vaccination helps to protect your herd from disease. However, it is important to understand that while vaccination may dampen the infection of BVD it will not eradicate BVD, either from a herd or nationally. PI cattle are so highly infectious that they will continue to spread BVD even if the herd is vaccinated. It is vital that the vaccine is administered exactly as directed in the manufacturer's instructions. Vaccination is recommended before mating. If you don't follow the instructions, your herd will not be properly protected. Your vet will advise you on the proper way to store, handle and administer the vaccine.

## **My result was 'not negative'. What now?**

Firstly, a 'not negative' result doesn't mean you definitely have BVD in your herd. It can mean that cattle in your herd have been exposed to BVD in the past and have recovered.

A 'not negative' result means you should take action. From the 1st of June 2015 you cannot move animals from a 'not negative' herd unless they have been individually tested for BVD virus and found to be free.

From the 1st of June the only tests suitable for 'not negative' herds are either the calf screen or a whole herd screen. In order to achieve a 'negative' herd status from a calf screen you will need to complete a full year's worth of testing i.e. all calves born within the year. If this is not possible then you should individually test any animal you intend to sell along with the calves born. The alternative is to do a whole herd screen which has the advantage that it will identify any PI animals in your herd and allow you to move any animals from your herd.

Your vet can change your status if they are satisfied that appropriate testing has taken place. Once they have completed the online CPD course (see link at [www.gov.scot/bvd](http://www.gov.scot/bvd)) they will be able to contact the BVD helpline or submit a declaration that the herd status should be changed from 'not-negative' to 'negative'. This may be as a result of follow up testing that indicates no PI animals are present or where testing with multiple laboratories has occurred which has prevented the laboratory allocating a herd status. You should always include your vet postcode on your submission forms in order that they can access your results.

A vet cannot instantly change a herd status on the removal of PI animals from the herd because the next generation may still produce PI animals. A vet can only change a status following the removal of a PI under the following conditions:

1. The PI was a brought in animal and has been kept isolated from the rest of the herd.
2. The following generation of calves has been born and no PIs have been found i.e. there were no unborn PIs on the holding.
3. 12 months have elapsed since the PI was removed.

If you have BVD infection in your herd, it is important to find out if you have any PI animals. If you find a PI animal, it should be culled or sent for slaughter as quickly as possible. The Scottish Government will be informed of this result and you will not be allowed to move the animal except to slaughter. As long as a PI animal remains in your herd it is a risk to the rest of your animals. The sooner you identify and remove the PI, the sooner you will be able to achieve a 'negative' status. This will also protect your herd from further infection and poor performance.



## WHAT'S NEXT?

### **Assumed individual animal status**

The eradication scheme so far has been based on a herd status, this gives a level of confidence of the status of an entire herd at the time the test was carried out. Along with this we know the result of individual animals that have been tested for the BVD virus. Phase 4 introduces the idea of assumed animal status. If a PI animal gives birth to a calf, the calf will be assumed to be a PI as PI animals will always produce PI calves. If a calf tests negative for the BVD virus it's mother will be assumed to also be negative because a PI mother cannot give birth to a negative calf. It is possible to work in further assumptions on the basis of an antibody check-test, which could add a level of confidence to individual animals from a herd and this assumed status could remain with the animals after they move. This information can then be used by markets.

When BVD exposure gets down to a very low level, other options will include biosecurity requirements for any holding known to be harbouring PI animals.

## PART 4

### BVD: WHAT IT IS AND HOW IT SPREADS

Bovine viral diarrhoea (BVD) is a widespread disease of cattle causing various symptoms including abortion, stillbirths, diarrhoea, pneumonia, poor condition and a lowering of resistance against other infections. It is a serious infectious disease of cattle and can be fatal.

BVD is caused by a virus (BVDV) which is spread by persistently infected (PI) cattle which constantly produce and shed the virus in saliva, nasal mucus, faeces and semen. PI cattle can only have acquired that infection in the first third of foetal life. Before the eradication scheme began it was estimated that one of every 100 youngstock in Scotland was a PI animal. PI animals are always virus positive and do not produce antibody against BVDV. They can die of mucosal disease at any age. Some survive into adulthood and pose a real threat. A PI bull can wreak havoc if added to a susceptible herd, and if a PI cow has a calf it will always be PI. Most die as calves but a few live much longer and **many PI animals appear normal.**



The photo on the left shows two calves of the same age, but the one on the left is a PI.

*Picture: Prof Joe Brownlie, RVC*

Around one sixth of all herds in Scotland now have signs of exposure to BVD. This is a great reduction on initial estimates and surveys suggesting a reduction in the disease. Initial surveys suggested that around 2,000 to 4,000 PI animals were alive in Scotland at one time. Over the past few years over 2,000 PI animals have been identified. It is important to note that PI animals can look perfectly normal and in very good condition as in the below photograph.



*Picture: Catriona Ritchie (SAC)*

Therefore, if you get a 'not negative' result showing evidence of a PI animal presence within your herd you cannot just cull out any animals that look in poor condition and assume that will solve the problem.

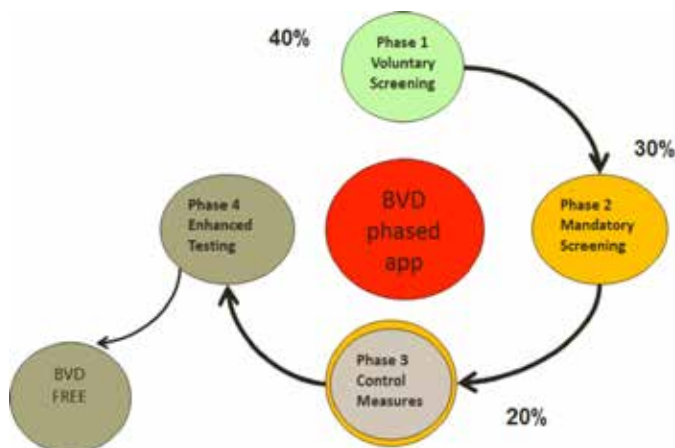
### *What are antibodies, antigen and virus?*

The laboratory tests for BVD look for BVD virus/antigen, or antibodies. Antibodies are created when the animal encounters BVD virus, so testing for antibodies shows if BVD infection may be present in the herd. This is the principle on which the check-test is based (see p.10). Antigens are the part of the virus that an animal reacts to and forms antibodies against. A test is done for antigen/virus when you are looking for PI animals, for example the calf screen test (see p.12).

Testing a sample of animals for antibodies in each separately managed group enables you and your vet to work out if more testing needs to be done and if so, where. Follow up testing will often be for virus/antigen because you are looking for PI animals. Testing for virus/antigen will tell you if that individual animal has BVD.

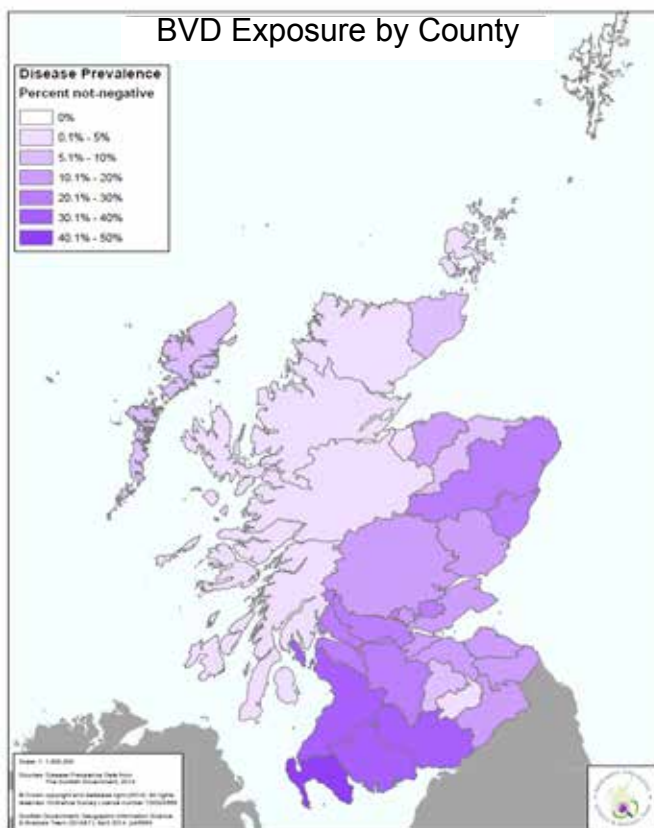
### How common is BVD?

Before the BVD eradication scheme came in to place the level of exposure to the disease (percentage of 'not negative' herds) was estimated at 40%. After increased awareness of the disease and voluntary screening this was reduced to just under 30%. After the first year of mandatory screening the percentage of herds with a 'not negative' status was just over 20%, this continues to decrease and now stands at 16%. This shows a year on year decrease in the levels of BVD.



## Differences in BVD exposure levels by county

You can see in the below map that there are geographical differences in the levels of exposure to BVD, the darker the area the more BVD is present in that area. For those who have a 'not negative' status in a low BVD region hunting and removing any PIs will make a big difference to the county status. For those who have a negative result in counties with a higher prevalence, biosecurity is of greater importance.



## Beef and Dairy

The percentage of beef herds that test 'not negative' for BVD is now down to 12%. This is a large reduction within just a couple of years. For the dairy sector the story is not so promising, as the level of herds testing 'not negative' herds are only beginning to see a decline from 50% of herds to 40% of herds with a 'not negative' status. If you have a dairy herd with a 'not negative' result and you have been using a bulk milk screen you will now have to use a different method to establish if there is an active BVD infection within your herd. As indicated below the benefits of the eradicating BVD from a dairy herd is even more pronounced than for a beef herd.

### Why eradicate BVD?

Eradicating BVD would be worth up to £80 million over ten years to the Scottish cattle industry. Scottish Government economists have calculated the benefits of eradicating BVD for four average types of farm:

#### ***Annual benefits after eradication:*** (2010 data)

Dairy	£15,800
LFA specialist beef	£2,400
LFA cattle & sheep	£1,800
Lowground cattle & sheep	£2,400

(LFA – Less Favoured Area)

An average dairy herd would be £16,000 better off every year, and an average beef unit around £2,000 better off each year.

## **Where can I get more information?**

The best source of advice and information is usually your vet.

If you are in a health scheme you will be able to access specialist advice through them.

For more information on the Scottish BVD eradication scheme, screening requirements and information about the ScotEID database please go to [www.scoteid.com](http://www.scoteid.com) or call the BVD helpline on 0300 244 9823.

If you have any questions specifically relating to BVD policy development please call the policy team on 0300 244 9877 or email [bvd@scotland.gsi.gov.uk](mailto:bvd@scotland.gsi.gov.uk).

For more information on BVD generally, you could visit the Scottish Government's website at [www.gov.scot/bvd](http://www.gov.scot/bvd) which explains more about the disease and has links to academic sites.

If you are not sure what method to use to screen your herd, the best source of advice is your vet or you can call the BVD helpline.

### BVD MYTH BUSTER

**1. Got BVD? Don't worry, you can just vaccinate.**

**FALSE** – Vaccination does not deal with PI animals. They are too highly infectious and will still be able to spread infection potentially creating yet more PI's.

**2. You should keep a PI animal on the farm so that your animals are not naive i.e. the idea of PI parties, 'natural vaccination'.**

**FALSE** – PI animals are highly infectious and should be culled as soon as they are identified. BVD causes significant losses on herds that have it, through transient as well as persistent infection. An animal that is transiently infected will suffer lower immunity and increased susceptibility to other diseases as a result.

**3. The government is making vaccination compulsory/the government is banning vaccination.**

**FALSE** – Vaccination will continue to be an important part of controlling BVD for many herds, but it is a decision to be taken between keepers and vets.

**4. You can't get rid of BVD, because of transient infection.**

**FALSE** – The evidence is overwhelming that removing the persistently infected animals will stop the disease from circulating. Transient infection will fizzle out on its own.



**5. There's no point in getting rid of BVD, because my herd will be re-infected by sheep/deer.**

**FALSE** – Sheep can carry BVD and can re-infect your herd, but only if they have been in contact with cattle with BVD in the first place. Removing the source of infection – the PI cattle – will reduce BVD among sheep. Also, transmission from sheep to cattle is very weak, so only a small number will be unlucky enough to get re-infected this way. To be sure though, you should keep breeding cattle away from sheep. Deer can carry BVD, but we have no evidence to suggest this is a serious problem, and again, removing PIs will remove a major source of infection for deer.

**6. It's impossible to eradicate BVD from my herd – I've been trying for years.**

**FALSE** – The vast majority who have followed a CHeCS scheme have got rid of BVD in under two years. If you test to find your PIs, slaughter them, buy in only BVD-free cattle or isolate and test them, test your calves for two years, and exercise good biosecurity, you should get rid of a BVD infection in under 24 months. All the studies show that the benefit to your profits will far outweigh the cost of getting rid of BVD.

**7. I've got a PI animal, but it looks alright so I don't need to slaughter it, I'll just finish it.**

**FALSE** – Very few PI animals ever reach a good slaughter weight. You will only waste money trying to feed it. While it's on your farm it is a significant disease risk to the rest of your herd. It's always better to send it for slaughter immediately.



**FARMER'S SUBMISSION FORM – BVD VIRUS SCREENING (using tissue tags)**

<b>PLEASE INSERT BCMS BAR CODE LABEL HERE</b> (This should contain the following information) <b>Holding Number (CPH):</b> /        / <b>Name:</b> <b>Address:</b>  <b>Postcode:</b>		<b>VETS DETAILS</b> <b>Name:</b> <b>Address:</b>  <b>Postcode:</b>	
<b>Tel:</b>		<b>Tel:</b>	
<b>Fax:</b>		<b>Fax:</b>	
<b>Email:</b>		<b>Email:</b>	

Date samples were taken: \_\_/\_\_/\_\_\_\_

Are you an accredited health scheme member?

YES ☐ NO ☐

**Declaration by Keeper**

These samples are intended to constitute a mandatory annual screening test for BVD for my herd.

Signature:

Date:

**For a calf screen, all calves born on the farm in a 12 month period must be screened for BVD virus.** (Please copy this form for further calves as necessary or download: [www.scotland.gov.uk/bvd](http://www.scotland.gov.uk/bvd)). **Please discuss the options for this with the testing laboratory or your vet where necessary.**

**Which screening method have you selected?** (Please circle option 2 or 3 : option 1 available to vets only)

2. TEST ALL CALVES; using the ear tissue test. ☐

3. TEST ALL ANIMALS IN THE HERD; using the ear tissue test. ☐

**Once you have sampled ALL the animals on the farm or ALL calves born in the past 12 months please tick the box below to be issued with your herd status** ☐

Official ID (include all 14 digits per animal)														Tissue Tag Number (if different)	Lab Reference	Virus

Please tick this box if you **do not** give permission for samples and information you submit to be shared with Scottish Government appointed research providers to support BVD eradication. ☐

FOR LABORATORY USE:		Lab Ref No:	
Date of receipt:		No of Samples	
Initials:		Checked:	
Reported		Invoked	
Vet		Databased	

Further copies of this guidance are available from:

**BVD Policy Team**

Scottish Government

P Spur

Saughton House

Broomhouse Drive

Edinburgh

EH11 3XD

Tel: 0300 244 9877

Fax: 0300 244 9797

Email: [bvd@scotland.gsi.gov.uk](mailto:bvd@scotland.gsi.gov.uk)

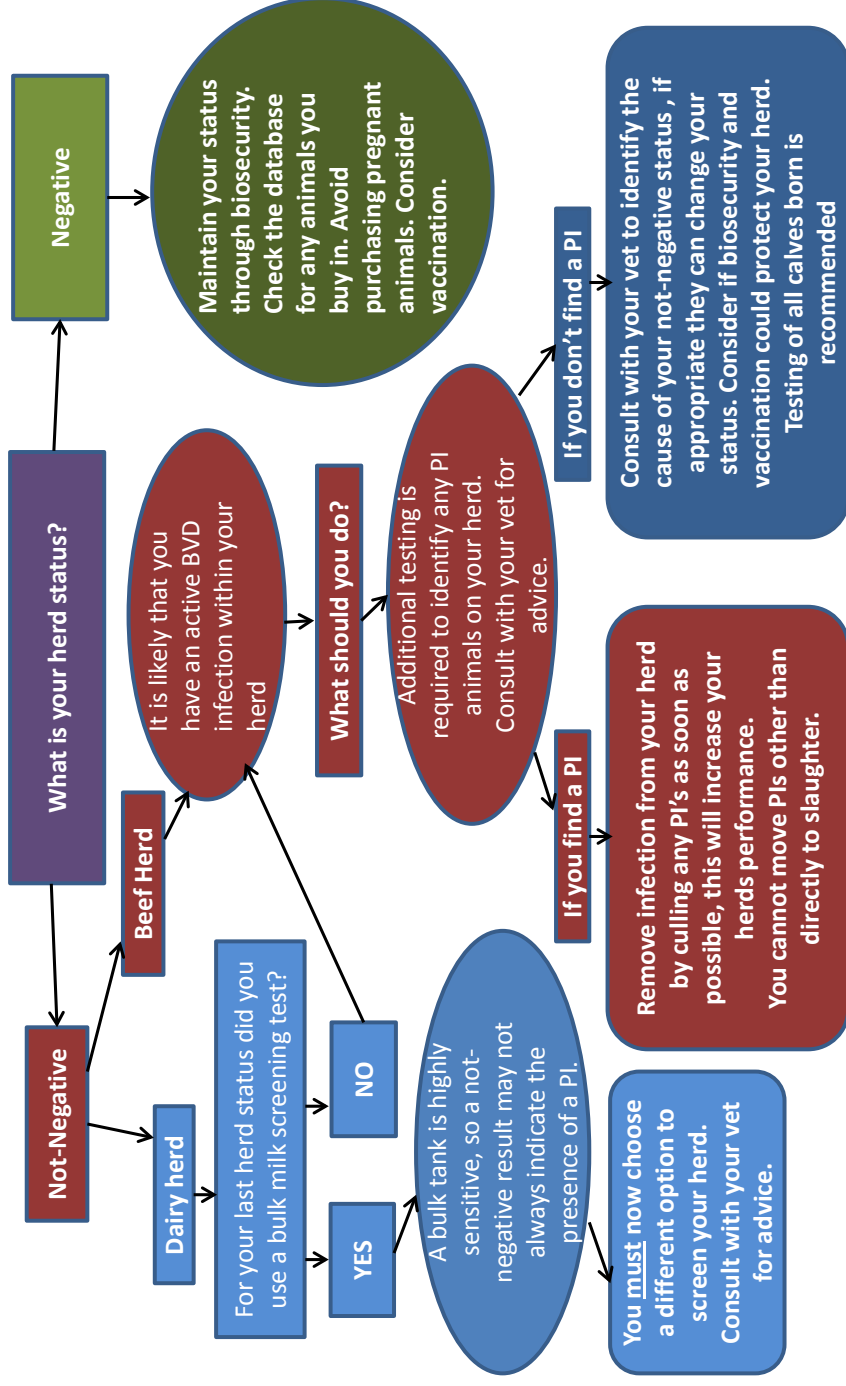
WEBSITE: [www.gov.scot/bvd](http://www.gov.scot/bvd)

BVD Look up: [www.scoteid.com](http://www.scoteid.com)

The BVD helpline: Tel: 0300 244 9823

## NOTES

## Decision tree for cattle keepers





The Scottish  
Government  
Riaghaltas na h-Alba

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the Scottish Government website:  
[www.gov.scot](http://www.gov.scot)

For more information go to  
**[www.gov.scot/bvd](http://www.gov.scot/bvd)**

APS Group Scotland  
PPDAS50076 (06/15)

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