

## STAKEHOLDERS

### GOVERNMENT

Department of Agriculture,  
Fisheries and Food

### PROCESSING AND MARKETING

AIBP  
Arrabawn  
Bord Bia  
Carbery Group  
Connacht Gold  
Dairygold  
Dawn Meat  
Glanbia  
Kepak Group  
Kerry Group  
Lakeland Dairies  
Tipperary Co-Operative  
Wexford Milk Producers

### FARMERS' ASSOCIATIONS AND LIVESTOCK MARTS

Cork Cooperative Marts Ltd  
Irish Cattle and Sheep,  
Farmers' Association (ICSA)  
Irish Cooperative Organisation  
Society (ICOS)  
Irish Creamery Milk Suppliers'  
Association (ICMSA)  
Irish Farmers' Association, (IFA)  
Macra na Feirme

### BREED SOCIETIES

Irish Holstein Friesian  
Association  
Pedigree Cattle Breeders'  
Council of Ireland

### SERVICE PROVIDERS

Irish Cattle Breeding  
Federation (ICBF)  
Teagasc  
University College Dublin  
Veterinary Ireland

BVD Version 4: July 2011

FAQ <http://www.FAQlink.ie/bvd.php>



# BVD Information Leaflet For Irish Farmers and their Vets

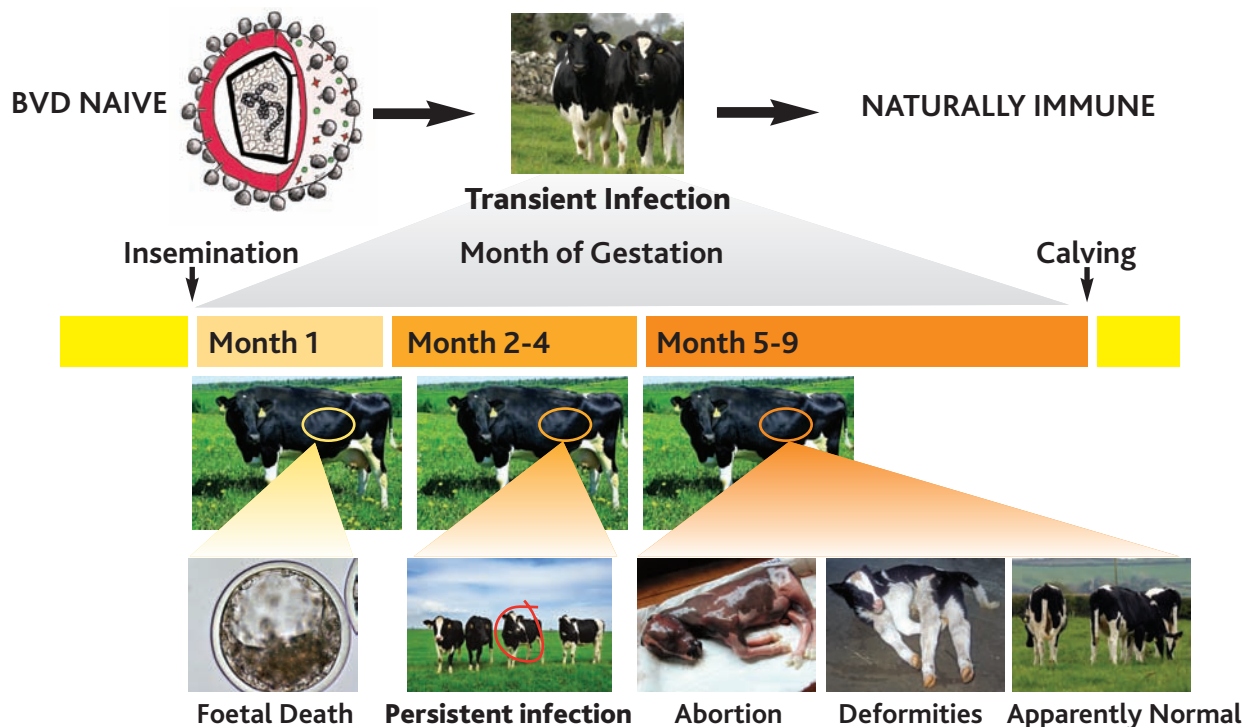
**National  
BVD eradication  
programme  
beginning Jan 2012**  
*- see farming press  
for updates*



# BVD: The Facts

- Bovine Viral Diarrhoea (BVD) is a highly contagious viral disease of cattle that can be transmitted as easily as the common cold. It can be spread directly by infected animals, or indirectly, for example via slurry and contaminated visitors or equipment.
- Most infections with BVD are Transient Infections (TI) without clinical signs. The signs of BVD infection include effects on fertility, calf health and foetal losses (see below for further details).
- Infection with BVD virus within the first 120 days of pregnancy may result in persistent infection of the foetus.
- Persistently Infected (PI) animals will shed BVD virus at high levels for life and PI animals are therefore the most significant source of BVD virus.
- BVD control makes financial sense - within a year or two, farmers see real cost benefits with improved calf and herd health leading to increased productivity.
- There is a new industry initiative being launched in 2012 for National BVD eradication - see *farming press* for program updates.

## The effects of BVD infection



- PI animals can look entirely normal but also may be stunted or ill-thrifty. Eventually the majority of PI animals will develop a severe and always fatal wasting condition with diarrhoea called Mucosal Disease. This typically occurs between 6 to 18 months of age.
- BVD persists in herds due to the production of PI animals. Therefore, protecting your breeding stock from BVD virus within the first 120 days of pregnancy is critical to preventing the generation of new PIs, thereby limiting the spread of the disease
- The AHI website has more information about BVD including answers to FAQ's <http://www.animalhealthireland.ie>

## WHAT ARE THE SIGNS THAT BVD MAY BE IN YOUR HERD?

- ☐ Do you have animals that are not thriving for no apparent reason?
- ☐ Do you have more cows that are empty than you should have?
- ☐ Do you have more unexplained abortions than normal?
- ☐ Have you seen birth defects in your calves this year?
- ☐ Do your calves have more scours and pneumonia than they should?
- ☐ Do sick calves respond poorly to veterinary treatment?
- ☐ Has Mucosal Disease been diagnosed in your herd?

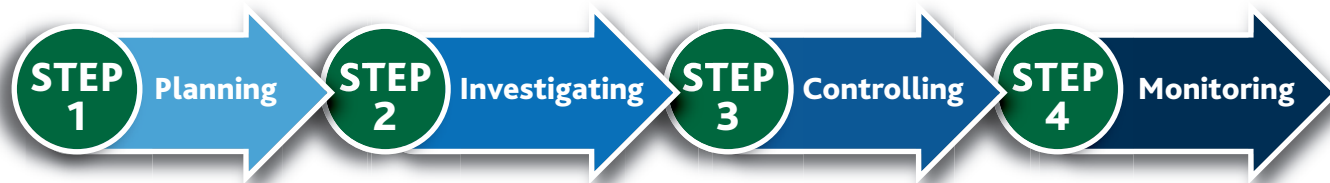
IF THE ANSWER TO SOME OR ALL OF THESE QUESTIONS IS YES,  
THEN ACTIVE BVD INFECTION MAY BE PRESENT IN YOUR HERD.

**CONTACT YOUR LOCAL VET TO PLAN YOUR  
BVD INVESTIGATION**



## WHAT SHOULD I DO ABOUT BVD?

There are four key steps to addressing BVD on your farm.



EACH OF THE STEPS SEEK TO ADDRESS KEY QUESTIONS:

### STEP 1: PLANNING

Why am I investigating, How big is my problem, and What is it I'm seeking to achieve?

### STEP 2: INVESTIGATING

What is my herd status and how do I identify individually infected animals?

### STEP 3: CONTROLLING

What do I need to do to control BVD in my herd?

### STEP 4: MONITORING

How do I know if my control programme is working?

*By addressing each and every one of these steps in collaboration with your vet, BVD can be successfully controlled.*

## STEP 1 Planning

### WHY AM I INVESTIGATING? HOW BIG IS MY PROBLEM? WHAT IS IT I'M SEEKING TO ACHIEVE?

Motivation for addressing BVD on your farm may come from concerns regarding problems with animal health, fertility or performance. Alternatively, motivation for addressing BVD may stem from an aspiration or need for a herd to be completely free from BVD.

#### PROBLEM DRIVEN

- Poor reproductive performance
- Poor calf health/ calf deformities
- Mucosal Disease

#### GOAL DRIVEN

- Routine herd health monitoring
- To be able to demonstrate BVD freedom
- To classify herd BVD status
- To facilitate a BVD control programme
- To assess BVD freedom

Your motivation for addressing BVD will determine how far you will need to take the investigation. This will depend on individual farm goals and how severe your problem is. Regardless of your motivation, each of these pathways can only be progressed by defining the herd status



## STEP 2

# Investigating

## WHAT IS MY HERD STATUS AND HOW DO I IDENTIFY INDIVIDUALLY INFECTED ANIMALS?

Unless previous diagnostic testing has confirmed the presence of BVD virus on your farm, the herd status will be unknown. Herd screening tests are needed to classify your herd status. The herd status will give an impression of whether the BVD virus is likely to be in your herd. If the presence of BVD virus is suspected, it is necessary to test the herd further to identify individually infected animals on your farm. Knowing your herd status will give you the information to help select the most appropriate controls to use on your farm. Beginning immediately with individual animal testing is advisable for herds that are looking to attain BVD freedom quickly. A National Programme of BVD Control based on ear notch tissue testing is currently being finalised for 2012

### Herd Level Screening Tests

The tests used aim to detect either the presence of BVD virus itself or evidence that the animals have been exposed to the virus in the past (i.e. antibodies against the virus). Herd level screening protocols differ between beef and dairy herds. Screening of young stock gives the clearest indication of the infection and is often the best place to start. Following up with testing of adult cows will then give you a more complete picture of your herd.

### VETERINARY TECHNICAL INFORMATION

#### DAIRY HERDS SCREENING TESTS

##### Young Stock Screen (9 to 18 months)

Bleed 5 to 10 non-vaccinated home-bred animals from each separate management group (e.g. spring and autumn-born animals or bulling heifer groups) and test for antibodies (BVD virus optional)

AND

##### Adult Herd Screen

Bulk milk sample (whole herd) for antibodies (BVD virus optional)

Use of BMT PCR is recommended where the BMT antibody reading is high - very high

#### BEEF HERD SCREENING TESTS

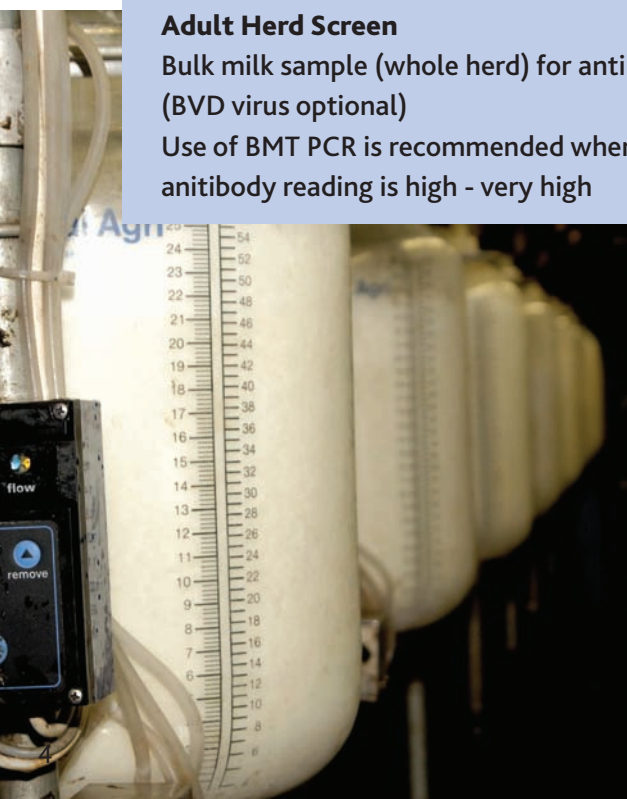
##### Young Stock Screen (9 to 18 months)

Bleed 5 to 10 non-vaccinated home-bred animals from each separate management group and test for antibodies (BVD virus optional)

AND

##### Adult Herd Screen

Bleed 15 non-vaccinated home-bred animals from each separate management group and test for antibodies (BVD virus optional)



## CLASSIFYING YOUR HERD STATUS

NEVER EXPOSED (S1)	E X P O S E D		
	(S2)	(S3)	(S4)
No virus detected in both the Adult Herd and Young Stock Screens  And  No antibody detected in both the adult and young stock	No virus detected in both the Adult Herd and Young Stock Screens  And  No antibody detected in the Young Stock Screen  And  Antibody positive animals in Adult Herd Screen	No virus detected in both the Adult Herd and Young Stock Screens  And  Antibody positive animals detected in the Young Stock Screen  And  Majority of individual adult animals have high levels of antibodies	Virus detected in either the Adult Herd or Young Stock Screens

### WHOLE HERD INDIVIDUAL ANIMAL TESTING

Not required for S1 herds. S2 herds are less likely to contain PIs and individual animal testing is not usually warranted unless supported by veterinary advice or farm goals. In herds that are classified as either S3 or S4, individual animal testing should be done immediately using either PCR or ELISA tests to determine the virus status of every animal in the herd



### VETERINARY TECHNICAL INFORMATION

#### INDIVIDUAL ANIMAL TESTING FACTS

- BVD virus can be detected in blood, milk or ear-notch tissue samples
- Any virus-positive animal is very likely to be persistently infected. If you wish to confirm this then the animal should be isolated (with dam if necessary) and re-tested in 2-3 weeks to confirm PI status.
- BVD vaccination of unexposed animals produce little or no antibody response by ELISA testing

#### CAUTION

As testing a pregnant animals does not detect an infected foetus, all pregnant animals at the time of testing must be recorded and calves born to these dams should be tested as soon as possible after birth with either ear-notch or blood samples using PCR. Consult the testing laboratory for advice on sampling.

**A control plan should now be developed for your herd in conjunction with your local vet, once the herd status is determined and animals infected with BVD virus have been identified**

## WHAT DO I NEED TO DO TO CONTROL BVD IN MY HERD?

## THREE KEY COMPONENTS TO CONTROL BVD:

## 1. REMOVING INFECTION

Where individual animal testing has confirmed the presence of PI animals in your herd, these PIs should be isolated immediately and slaughtered at the earliest possible opportunity as they are the major source of BVD infection on your farm.

## 2. PREVENTING INFECTION

The key to long term success in controlling BVD is preventing introduction into your herd. To reduce the risk of introduction of BVD (and many other infectious diseases), you should implement a **Farm Biosecurity Plan** focusing on:

## ANIMAL INTRODUCTIONS TO THE HERD

- Ideally maintain a closed herd (no introductions to the herd, including bulls).
- If a closed herd is not possible, then prior to purchase request laboratory confirmation from vendor that the animals are virus-negative.
- Where animals are not tested prior to arrival on your farm, animals should be quarantined and tested for virus to ensure that neither transiently nor persistently infected animal enter the herd (see Monitoring).
- Do not mix or house animals in the same airspace with animals whose BVD status is unknown.

## FARM BOUNDARIES

- Maintain stock-proof boundaries on your farm. Ideally these should prevent nose-to-nose contact (with double fencing).
- Avoid co-grazing land with other farms and/or other animal species.



## VISITORS AND EQUIPMENT

BVD can be carried in bovine saliva/faeces, on clothing and equipment. To help reduce this spread:

- Have well maintained footbaths and ensure all visitors use them.
- Ensure all visitors wear clean protective clothing and minimise their contact with stock.
- Clean and disinfect trailers. Clean and disinfect all veterinary equipment (e.g. nose-tongs and calving ropes) before and after use, or provide your own equipment on the farm.
- Do not spread slurry from other farms and avoid grazing land for at least one month where slurry has been spread.

## 3. MANAGING IMMUNITY / VACCINATION

In herds classified as S1 or S2 (little or no immunity to BVD), the effects of the virus entering the herd can be devastating. In herds classified as S3 or S4 (immune to BVD but a high risk of a PI present) the consequences of viral spread within the herd can also be damaging. For these reasons, vaccination is advised. A vaccination plan is best implemented to ensure maximum immunity is present at the beginning of the animals' breeding season.

## Remember:

- Read carefully and fully implement vaccine manufacturer's instructions.
- Two vaccinations are required in the first year.
- Complete the vaccination programme approximately one month prior to herd mating start date each year

## HOW DO I KNOW IF MY CONTROL PROGRAMME IS WORKING?

To know if your BVD control programme is working, it is necessary to regularly check for changes in herd status. This is especially true for herds where there is a high risk of introducing BVD (e.g. where new animals are purchased).

### DIAGNOSTICS FOR HERD MONITORING

You can monitor your herd by combining diagnostic testing and looking out for signs of disease associated with BVD (see '*BVD: The Facts*')

Diagnostic testing should be used to monitor three key areas;



### 1. DETECTING PI CALVES

All newborn animals born alive or dead (both heifer and bull calves) should be monitored to check for PIs annually, with prompt culling. Visit the Animal Health Ireland website <http://www.animalhealthireland.ie/bvd.php> for details of labs carrying out accredited BVD testing.

### 2. DETECTING INFECTED ANIMALS (PIS AND/OR TIS) OR A CHANGE IN HERD STATUS

This should be done by regularly repeating herd screening tests (adult and young stock) detailed previously. This can be done even where a herd has been vaccinated since the last sampling. If any results show either an increase in exposure or the presence of BVD virus, further individual testing should be done. At a minimum, monitoring by herd screening should be done annually. In high risk herds (those that buy in regularly; large herds; herds in areas of high cattle density), sampling should be conducted more frequently (up to every three months).

### 3. MONITORING NEW INTRODUCTIONS TO THE HERD

Ideally **NO** new animals should be introduced into your herd (not even a stock bull). If this is not possible all cattle to be purchased should be isolated and tested for BVD virus (ideally prior to purchase or if not then, after introduction and while still in quarantine) to ensure that neither transiently nor persistently infected cattle enter the main herd. This may be achieved using different test methods and sample types. If necessary, seek veterinary advice to ensure the suitability of a particular approach.

### BEWARE!

- In pregnant animals, the foetus may be a PI even though the dam is virus- negative
- No BVD virus-positive animals should be sold except for immediate slaughter.

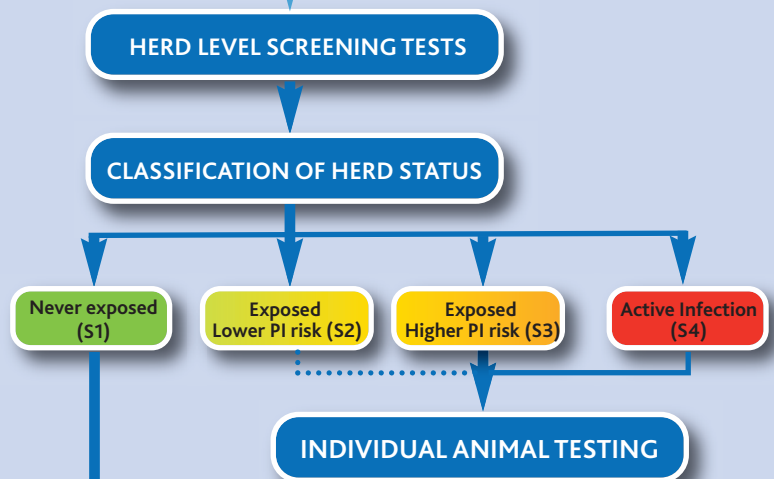
# A STEP BY STEP GUIDE

## To BVD Investigation and Control

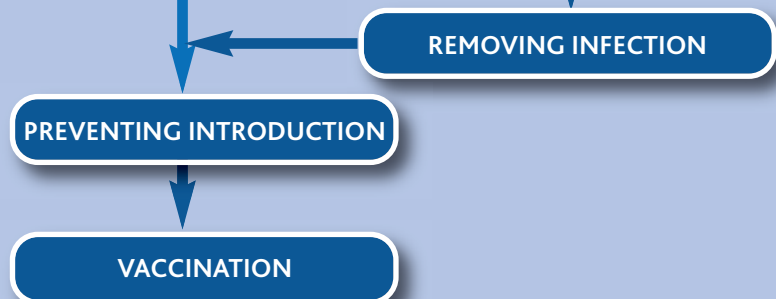
### STEP 1 Planning



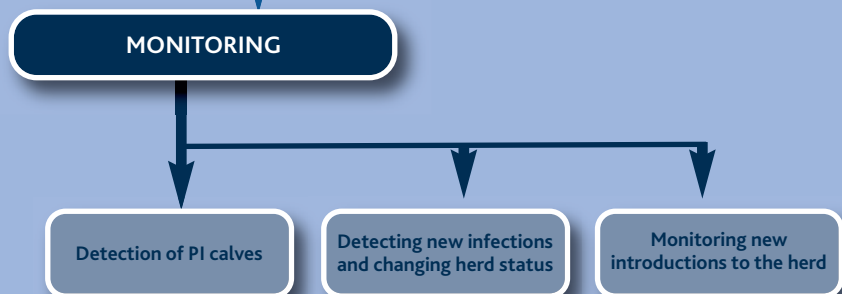
### STEP 2 Investigating



### STEP 3 Controlling



### STEP 4 Monitoring



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