

# BVD in the dairy herd



# Should you vaccinate against BVD?

It's always difficult to justify extra costs when times are hard. And yet, as many dairy farmers have discovered, controlling BVD can profoundly improve herd performance – enough to recover the cost of the vaccine many times over.

DairyCheck results for 2009 showed that over half the herds tested had been exposed to the BVD virus.

This booklet will tell you about BVD: how it affects your herd, how you can control it, and how much you're likely to benefit if you eliminate it through vaccination.

## What is BVD?

BVD, Bovine Viral Diarrhoea, is a viral disease with a wide range of clinical signs. Importantly, it reduces fertility; but infection can also lead to congenital defects and may make younger animals more at risk from other infections.

Independent studies have put the cost of the disease at around £90<sup>1</sup> per cow per year. This includes all its many effects and means it is the most expensive dairy disease after mastitis and lameness.

The disease is very common in Britain, with many dairy herds experiencing regular outbreaks. Many farmers have lived with the disease for so long, that they accept poor performance as normal within the herd. In a recent survey, 37% dairy farmers admitted noticing an increase in vets bills as a result of the disease.<sup>2</sup>

The major clinical signs are:

- Infertility
- Increased returns to service
- Abortions and neonatal deaths
- Extended calving to conception interval
- Congenital deformities in calves or death
- Immunosuppression in calves (makes them more vulnerable to other diseases)
- Reduced milk yield
- Mucosal disease
- Viral diarrhoea

## How the virus affects pregnant cows

BVD does most damage when it infects pregnant animals. But the effect differs, depending on when infection occurs.

### 1 Infection in newly conceived cows and heifers (0-45 days)

Cow loses embryo and returns to service. If the embryo is lost prior to day 17 of gestation a return to service at 21 days will occur.



### 2 Infection in first trimester (45-125 days)

Virus enters unborn calf. Either causes abortion and return to service or results in the birth of a persistently infected carrier animal (PI). PI calves shed massive quantities of virus throughout their life and are the major cause of very high disease prevalence. PI calves may show no outward sign of their condition, but may succumb to mucosal disease later in life.



### 3 Infection after first trimester (125+ days)

Virus enters unborn calf. A variety of effects may be seen including abortion and congenital deformities.



If a non-pregnant adult animal is infected, it usually suffers mild illness, perhaps with scours or a secondary infection.

## How the virus re-infects herds every few years



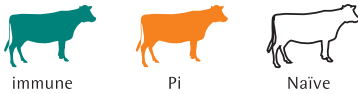
Studies show that 1 in 100 apparently normal cattle at slaughter are actually PIs (persistently infected carriers). Chances are, there's a PI on your farm right now.

In the dairy herd, calves – including PIs – are removed from their mothers, only to return to the milking herd a couple of years later. If there are some PI's amongst the same group, they will allow a regular cycle of infection every few years.



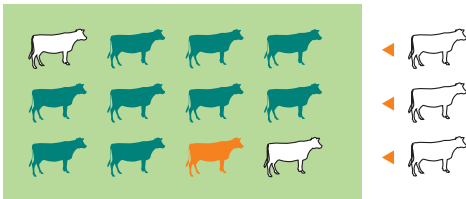
# Control options

If you do nothing, the cycle of infection will continue and waves of infection re-appear over the years.



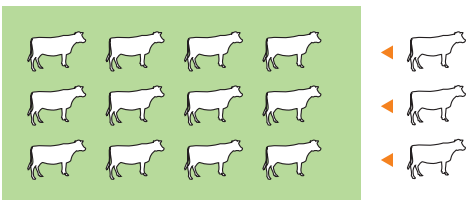
## 1 Natural immunity

Before vaccines arrived, the presence of a known PI was sometimes used to maintain natural immunity. This is an unpredictable method of disease control – particularly if pregnant animals are accidentally exposed to the disease and new (unknown) PIs are born. All animals will of course suffer from the disease before they become immune, resulting in scours, milk drop and other effects.



## 2 Closed herd and biosecurity

Requires absolute biosecurity and individual blood sampling of the current herd and all replacements to remove PIs. The closed herd will soon become completely naïve and unprotected, with greater potential for disaster.

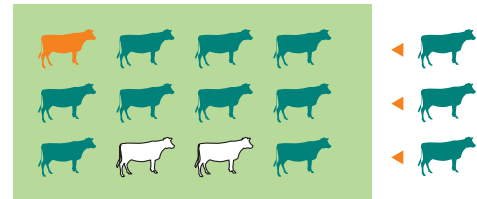


## Suggested biosecurity measures

- Double fencing
- Vector control - sheep, flies and staff
- Replacement policy and possible quarantine

## 3 Vaccinate heifers/replacements prior to breeding

Will eliminate the disease long term provided all vaccinated animals are subsequently boosted. However, a vaccinated PI will continue to shed virus which may continue to cause losses in naïve, unprotected animals.



## 4 Vaccinate all cows and replacements prior to breeding

Maximum financial benefit. Best practice requires identification and removal of PIs from herd. Will produce rapid, sustained control of BVD and prevent all damaging reproductive effects. Most importantly, it prevents the birth of further PIs. Note that vaccination is not advised in animals before 8 months of age, as strong maternally-derived immunity may lower the vaccine's effectiveness.



# What do I do next?

Intervet/Schering-Plough Animal Health continue to provide subsidised bulk milk tank testing. The results will give you a clearer picture of your herd status and possibly even whether a PI is currently active in the milking herd.

You and your vet will then be able to use the results to determine the most appropriate control strategy.

**DairyCheck** ✓

## **Bovilis<sup>®</sup> BVD**

*tried and tested BVD protection*

References:

1. Bennett (1999) - VetRec 145 (1999) p376-377.
2. Defra farm survey - April 2006.

Bovilis BVD is a vaccine containing inactivated BVD virus strain C86.

Contra-indications and warnings: see data sheet. Legal category **POM-V**

Further information is available from your veterinary surgeon from whose advice should be sought.

Intervet/Schering-Plough Animal Health  
Walton Manor, Walton, Milton Keynes MK7 7AJ

Item code: RU-071991