

# FARM PRACTICE NEWSLETTER



BVD Control - so you might vaccinate - could you do more?  
**JUNE 2011**

## BVD Control - so you might vaccinate – could you do more?

BVD is caused by a virus which is shed in body fluids. The disease is highly contagious, requiring very little contact for spread. It attacks the animal's immune system – making them less able to fight off other infections. Studies show that infected cows have more cases of lameness and mastitis with higher cell counts. It also has a detrimental effect on herd **fertility** and the health of young cattle. Following eradication of BVD in Sweden one of the major benefits was the improvement seen in **calf health** – less pneumonia cases.

BVD is present on up to 90% of herds in the UK costing UK cattle industry an estimated £50-75m annually.

### **Adult cattle – the effects:**

Although severe disease can occur, most animals show no signs of illness. The main effect is on fertility, with the result of infection dependent on the cow's pregnancy status.



Early embryonic loss = poor conception rates

### The PI animal

These are the main source of virus. Some are easily spotted; they may be stunted or be deformed (cataracts, different shaped heads). However, half of PIs appear entirely normal yet are constantly spreading disease to others within the herd.

Cow's status at time of infection	Clinical signs/ outcome of infection
Non- pregnant	<ul style="list-style-type: none"> <li>Usually mild illness; milk drop, Short term scour and poor fertility. More prone to secondary infections.</li> </ul>
1 <sup>st</sup> 3 months of pregnancy	<ul style="list-style-type: none"> <li>Poor conception rates. In one study, 1<sup>st</sup> service conception rates in heifers were 22% in infected animals compared to 79% in controls.</li> <li>Early abortion</li> <li>Persistent infection (PI) in calves that survive; these animals excrete virus throughout their lives. Many of these animals will die early (6-24 months) from mucosal disease</li> </ul>
Mid- late pregnancy	<ul style="list-style-type: none"> <li>Abortion</li> <li>Deformed/ weak calf born</li> </ul>



BVD testing ear tags – can detect PIs from birth

### Infected bulls

Infection can cause a raised temperature which reduces semen quality for up to 2 months – a complete disaster if it happens to coincide with the beginning of the service period. Bulls are also an important source of infection as they may shed BVD in their semen for a long period of time (8weeks to years).

## Youngstock

BVD can cause a lot of problems in a group of calves. It is usually there due to the presence of a PI calf. When the virus is active it lowers the calves' immunity allowing conditions such as pneumonia and scours to take hold. As a result, we often see more severe cases/ outbreaks than usual.



Calf suffering with BVD infection

The impact of BVD will depend on a variety of factors including the herds' immunity, calving pattern, production level and the levels of other diseases on the farm. However, if BVD virus is active on your farm then it is likely to be costing you between £50-100 per breeding animal.

**So what can we do to reduce the effects of BVD on your herd or possibly eradicate BVD from the herd?**

### What is your BVD status?

We provide free screening services for BVD. These are either BVD Bulk milk antibody and PCR tests (Dairycheck) or blood samples for antibodies (Beefcheck) If you would like to find out your status then give us a ring.

Depending on the results and your herd health aspirations we can advise you what to do. You can opt to vaccinate only or vaccinate and remove all PIs from the herd.

### Vaccinating the whole herd

To achieve protection throughout the herd all animals (including the bull) should be fully vaccinated at least 4 weeks pre service. The primary course is two doses (4 weeks apart) followed by an annual booster.

The cost benefit of vaccinating against BVD is proven – a 200 cow dairy herd could save 2.3p per litre and a beef suckler herd can save at least £50/ cow / year.



Vaccinate – to ensure fetal protection

If PI animals are present in the herd vaccination will not alter their status: they will continue to be infected. These PI animals will continue to shed virus and challenge the vaccine's protection of the rest of the herd. A PI cow will always produce a PI calf and therefore maintaining BVD within the herd.

### Vaccination plus PI identification and removal

By going on a PI hunt and removing the virus shedding PI animals from the herd you will be removing the source of the virus. This will remove the challenge to the vaccinated animals. Improvements in herd performance may be seen not only in pregnancy rates but also stronger immune systems resulting in eg, less pneumonia cases.

To maintain these health benefits, it is important to avoid virus getting back into the herd. Close monitoring of the herd plus good biosecurity is vital!

### Monitoring herd status

Monitoring and testing for BVD is most commonly carried out using blood and milk samples. The samples are used to either detect antibody which shows exposure to BVD or antigen which shows that the animal is at that time infected with the virus. When monitoring for BVD we tend to use bulk milk antibody (in dairy herds) and youngstock blood screens (both dairy and beef herds).

### Bulk milk sampling

Monitoring bulk milk BVD antibody levels on a quarterly basis is worthwhile even in vaccinated herds. Vaccinal antibody levels can be detected by this test but generally post vaccinal levels of antibody is lower than that of natural infection and does not persist beyond a few months. Therefore, in a dairy herd which has been vaccinating for several years without active infection the bulk milk tank antibody levels should be at a low level if BVD virus enters the milking herd bulk milk antibody levels will raise. The greater the BVD antibody level the more likely that a PI is present within the herd.

In herds where the BVD antibody levels are elevated (to a medium or high level) we recommend doing bulk milk BVD PCR test (similar to an antigen test) +/- a youngstock screen to check for any circulating virus. The BVD PCR test has been shown to detect 1 PI animal in a bulk tank with up to 700 contributing animals. If positive then we know that there is virus in the milking herd and we can then begin to look for the culprit or culprits using milk or blood samples. A PI's tend to be less productive animals then looking at the 10% lowest yielding animals within the herd is a good place to begin.

If the BVD PCR is negative there could still be a PI present in the herd such as cows under treatment, dry cows, youngstock or a bull.

### **Youngstock antibody screen (beef and dairy)**

Most PI are found in at a young age (19/20 don't make it into the milking herd) so if there is one present it is likely to be within the youngstock.

By looking at BVD antibody levels of 6 animals (in each group) between 6-15 months before vaccination we can establish whether these animals have been exposed to BVD.

### **Health schemes**

BVD is one of the most expensive infectious diseases of cattle which many countries in Europe are now controlling and eradicating. Despite no national eradication plan, several regional plans are in place and have been a great success. For example 75% of participating herds in Norfolk and Suffolk area achieved a BVD free status after 2 years. Today many of the breed societies are insisting on vaccination or health status declaration for their pedigree sales as a result of the demand for BVD free animals there are more than 1000 BVD free cattle herds in the UK.

There are several health schemes available. For more information see [www.chechs.co.uk](http://www.chechs.co.uk).

With accurate tests, good vaccines, eradication of BVD is possible

### **Healthy Livestock BVD Strand**

Currently we are running workshops where you can find out more about BVD and its control on your farm. These workshops will entitle you to 65% funding towards the cost of establishing your BVD status and setting up a BVD control plan for your herd. The next workshop will be in July – places are limited to 10 people. Phone the office for more details.



### **LEAVING!**

We are sorry to announce that Katie will be leaving us on 1<sup>st</sup> July heading to pastures new on the North Hants/Bedfordshire border. Whilst she is very sad to be leaving us, the job opportunities for her and her husband Mark offer them both new and exciting challenges. We will all miss her and wish them both the very best for the future.



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