

# biobest herdcare newsletter

Quarter 1 2009

## An Update on BVD Eradication

In previous newsletters, we have discussed BVD infection on farms, and explained that animals that are persistently infected (PI) with BVD virus are responsible for maintaining the cycle of infection on a farm. The aim of eradication programmes is to identify and remove PI animals, in combination with vaccination of the breeding stock, at least until eradication is complete.

## Whole Herd Test to Identify PIs

Classically, a whole herd test to identify PI animals has been done by:

Animals over 9 months of age are tested initially for antibodies to BVD; subsequently samples with low or negative antibody levels are also tested for BVD virus. This approach is taken for a number of reasons:

As PI animals are infected in the womb, before the development of their immune system, they recognise the virus as part of themselves and don't develop antibodies to BVD. Knowledge of the immune status of the animals within the herd is useful when implementing a vaccination programme.

In herds where BVD infection is active and PI animals are present, it is likely that the majority of cattle in the herd have met infection and developed high levels of antibodies to BVD. As the antibody test is cheaper than the virus test, it is more cost-effective to test for antibodies first and follow up with virus testing where necessary.

**In calves less than 9 months of age**, antibodies present in milk (maternal antibodies) can interfere with this approach, so samples from younger animals are tested for virus only. The test that we use routinely (the ELISA test) to look for virus in blood samples can be used for calves of 3 months of age

or older. Recently, we introduced ear tissue testing to allow calves to be tested from birth. The ear tissue contains lower levels of maternal antibodies than blood and can be tested by ELISA from animals of any age.



## PCR – An additional Approach to the Whole Herd Test

Another test which is now being used in BVD eradication is PCR. The PCR test magnifies a specific area of viral genetic material so that it can be detected. PCR is a very sensitive technique, allowing samples to be pooled when carrying out a whole herd screen. Generally blood samples are pooled in the laboratory into groups of 10 and the pool tested by PCR. Samples contributing to pools which test positive by PCR are then tested individually on the routine ELISA.



It is also possible in dairy herds to screen bulk milk samples to determine whether there are any PI animals contributing to the bulk milk tank. It should be remembered, however, that all those not currently in milk must also be screened. In addition, as PCR is a very sensitive test, it may detect circulating infection as well as PIs.

It is likely that a mixture of these tests will be used when eradicating BVD on the farm, depending on the costs involved, the herd type and management system and the information required. A suitable protocol should be devised in collaboration with your vet and the Cattle Health Team at Herdcare.

## Cowboy's Column

Welcome to the first Herdcare newsletter of 2009. It is a little late which reflects how busy the team have been here during our peak testing months. The next one will be available in early May in time for the NBA Beef Expo event at which we hope to see many of you.

We have moved away from member profiles in this issue to allow us to discuss two of the scheme diseases in more depth. **Susan Duthie and Kate Haig** from our veterinary team have contributed on **BVD and Leptospirosis** respectively. Each farm needs to discuss their situation individually with their practice and I'm sure the short articles will generate some questions which the team are very happy to help you with in approaching disease control on your farm. PCR testing in control of BVD has been highlighted a lot in the last year and we give some guidance on when it may be useful.

Herdcare membership continues to increase, confirming the growing focus of farmers on the underlying cost of disease to their herd and farm profitability. This increase is in line with Hi Health in Scotland and we are pleased to confirm our continued support of this farmer group with the provision of testing and veterinary advice up to 2011.

As you will see in **BULLet points** the team is often in attendance at events, sales and farmer meetings. We look forward to meeting many of you at these during 2009.

David Kay  
Cattle Health  
Scheme Manager



## Leptospirosis

Leptospirosis infection of cattle is caused by bacteria that localise in the urinary and reproductive tract. In Britain two bacteria from the *Leptospira* group are important, *Leptospira borgpetersenii* serovar Hardjo and *Leptospira interrogans* serovar Hardjo, collectively referred to as *Leptospira* Hardjo. Infected animals become chronic carriers of infection and the organism can be passed on in urine or semen. Transmission from one animal to another may be direct, through close contact, or indirect via areas contaminated with infected urine. Infection may spread in streams and other water sources. Survival of leptospires is prolonged in warm, moist conditions and the organism may persist for months on pasture. **For this reason, disease occurs most commonly in the spring, autumn, and early winter.**

Although there may be obvious illness and associated milk drop when infection first enters a herd, when the disease is established clinical signs in cattle may not be obvious. **Testing blood samples from animals in the herd will show whether infection is present.**

**Leptospirosis in a herd can have long-term effects on reproductive efficiency and milk production.** Abortions or stillbirths can occur if a cow is infected for the first time during pregnancy although they may occur many weeks after infection when there is no obvious illness in the cow. Calves from subsequent pregnancies may be born weak and have a poor survival rate. In dairy cows infection can result in mastitis-like changes in the milk. **The disease can also be passed to humans** where it causes flu-like symptoms and severe headaches. Those working in the milking parlour are most at risk and herd owners should be aware of their responsibilities to protect employees.

**If you identify only a few antibody positive animals through blood testing**, it should be possible to move to accreditation by culling these animals, especially if they are older animals. The herd test may then be repeated at intervals of not less than 6 months until a clear test is achieved. Once a clear test is achieved, this is the first qualifying test of the accreditation programme.

**If the initial herd test shows antibody positive, non-vaccinated animals across all age ranges**, consistent with recent/current exposure, treat all animals over 12 months of age simultaneously with an appropriate antibiotic in consultation with your veterinary surgeon. Thereafter, testing of sentinel groups of heifers and first calvers can be used to monitor progress. Repeated negative results in these groups are consistent with absence of active infection and would suggest that in time the herd will be able to achieve accreditation in the absence of vaccination.

**A vaccination programme** will prevent losses associated with the disease but, once a programme has been initiated, it will be more difficult to assess whether infection is active within the herd. Unfortunately current blood tests are unable to differentiate antibody from infection from that due to vaccination. Accreditation cannot begin until all antibody positive animals have left the herd.

**If no antibody positive animals are identified by testing you should take steps to protect this status.** There is a risk of infection from water courses, particularly those that have flowed through another farm where other livestock graze up-stream; piped mains water should be used whenever possible. Care should be taken when adding animals to the herd. Animals that come straight from accredited herds in dedicated transport can be regarded as safe. Otherwise they should be sampled and tested for antibodies to *L. Hardjo* at the beginning of a 28-day isolation period, if possible on the farm of origin. If antibody positive, animals should not enter the herd; if negative, the animals should be resampled at the end of the quarantine and if these samples are negative the animals may safely join the herd.

Any herd that passes two clear screens, at an interval of between 6 and 12 months, can become accredited. These screens should include all animals intended for breeding of 1 year of age and older.

## BULLET Points

### South East Simmental Farmers AGM

Susan Duthie, one of our cattle team vets attended the above event on 19th of March to give a presentation on cattle health schemes. The presentation was beneficial to all that attended.

### Beef Expo 2009 Malvern

The cattle team will be attending the event on the 21st of May. We look forward to seeing you at the Biobest stand.

### West Mercia Aberdeen Angus Club

Biobest again sponsored the annual herd competition for the West Mercia A-A Club. Herdcare member Bob Lane (Penguin) is pictured with Large Herd prize winner Paul Jones (Brynawelon)



Biobest are also supporting the club AGM in May, where Paul Burr will present on how to get the best out of cattle health schemes.

### Herdcare Members

Congratulations to Mr and Mrs Van Geest on winning the intermediate championship at Perth with Lockerley Legolas G850 which went on to sell for 24000 gns to the Rawburn and Idvies herd.



### Edinburgh Marathon

Biobest have two relay teams entered in the forthcoming Edinburgh marathon on 31st May in aid of the Alliance for Rabies Control. To find out more about this charity and donate go to our website or use the link below:

[www.justgiving.com/biobestlaboratories](http://www.justgiving.com/biobestlaboratories)