

Fodder for Thought

Benalla
VETERINARY CLINIC

16 Church St, Benalla, 3672

Telephone: 5762 2788 or 5762 2181

Fax: 5762 4958

Email: admin@benallavetclinic.com.au

Volume 14, Number 5 November-December 2010

** This Month **

**BVDV—Is Pestivirus Haunting Your Herd?
Freemartins
First Aid Tips for Snakebite**

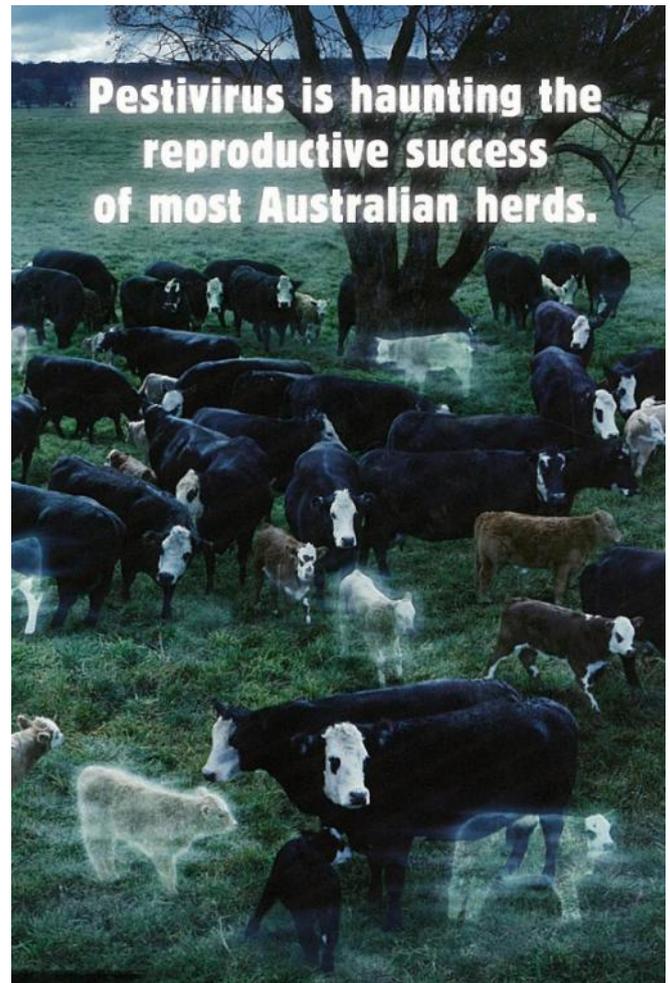
IS PESTIVIRUS HAUNTING YOUR HERD?

Bovine pestivirus, better known as Bovine Viral Diarrhoea Virus (BVDV), is a devastating disease which impacts on reproductive success through reduced calving, weaning and turnoff rates. It can affect every cattle breeder in Australia. You may not think you're at risk, but your herd could already be infected, silently robbing you of their reproductive potential. And if your herd has never been infected before, the introduction of a new pestivirus infection could have a significant impact on the future of your operation. So if you want to see more calves and less poor doers, you must consider insuring your herd with Pestigard vaccine.

Pestiviruses are a family of viruses that can also infect pigs, causing swine fever, and sheep, causing border disease or "hairy shakers". The bovine pestivirus, which causes BVDV, can also infect sheep, as well as pigs, deer, goats, alpacas and camels. With bovine pestivirus there are multiple strains that are able to cause disease. The virus can be passed on in the saliva, tears, nasal discharges, semen, faeces, urine and milk. If a pregnant cow is infected, it can also cross through the placenta and infect the developing foetus. The majority of cattle in Australia are thought to have had previous exposure to bovine pestivirus based upon the results of blood testing.

Infection with bovine pestivirus in young naïve (unexposed) cattle is of small significance. When a steer or heifer becomes infected, they develop a fever and are unwell for several days. After this their immune system is able to fight off the infection as they develop a long lasting immunity to the virus. As long as no other complications occur during the initial stage of the infection when their immune system is under attack, recovery is uneventful. However infection with bovine pestivirus

can make animals more susceptible to respiratory diseases, such as mycoplasma pneumonia, and to other infectious diseases like salmonellosis.



If the cow or heifer has developed immunity to bovine pestivirus before getting in calf, then maternal antibodies (which fight off infection) protect the foetus from the virus. The calf is protected after birth by the antibodies in the colostrum for the first 4 to 6 months of its life. Towards the end of this period the protection starts to wane. The calf then needs to acquire its own infection with the

The generosity of your time is the most valuable gift you can give.

virus, or become vaccinated against the virus, to ensure that its protection continues. This is especially important for heifers, as the major problem with bovine pestivirus occurs when a naïve, pregnant heifer or cow becomes infected. Depending upon the stage of gestation of the calf when the infection occurs, several outcomes may arise.

During the first trimester the foetus is relying upon the cow's immune system to protect it. Infection at this time can cause abortion, stillbirths and mummification of the foetus. This is seen as a return to service for the cow, as she loses the pregnancy. As the foetus develops, it can also fail to recognise the virus as foreign and accepts the virus as itself. This can lead to the development of calves that are persistently infected with the virus, and have large amounts of it living in them when they are born. These persistently infected (PI) calves are important in continuing the spread of the virus in the herd.

In the second trimester, the calf's immune system is partially formed and able to put up a partial, non-specific immune response to the viral infection. This leads to damage to the developing organs such as the eyes and the nervous system. Congenital deformities (birth defects) such as small eyes (microphthalmia), a bulging forehead, and shortened lower jaw may occur. The calf's immune response in the second trimester may also be not enough to prevent them from becoming PI calves as well. PI calves commonly have stunted growth and may show signs of poor appetite and ill thrift. They may die early in life (less than 2 years old) due to further infection with a different bovine pestivirus (mucosal disease), due to other infections, or due to chronic malnutrition.

If a naïve pregnant cow becomes infected during the third trimester of the pregnancy, the calf's developed immune system is able to fight off the infection. The calf is born normal, with antibodies against bovine pestivirus present in its blood prior to its first drink of colostrum.

The affects of bovine pestivirus infection of a cattle herd on the farmer are based mainly upon the reproductive losses and poor production in PI calves. The reproductive losses include both the cows and the bulls. Infection in a cow may cause loss of a new conception, loss of an embryo and increased returns to service across the herd. The calving percentage for that herd may be lower than what could be achieved without pestivirus infection. The effects upon the bull involve the period of fever associated with a new infection. This fever can make the bull sterile for the period of joining, leading to lower calving percentages or the need to replace what is otherwise a normal bull. The ability for the virus to be passed on in the bull's semen also makes it possible that a new bull may introduce bovine pestivirus into a naïve herd.

The introduction of bovine pestivirus into a naïve herd has major implications on that year's performance. Depending upon the stage that the cattle are at when they are infected, the results may differ. If none of the ani-

mals are pregnant, then they will get sick, have a fever and recover. Or they may become ill as they are more susceptible to respiratory disease or diarrhoea. If the cows are at joining (for example if a bull carrying the virus is introduced to a herd for mating), becoming infected at that point will decrease their fertility and cause a higher return to service rate. They may also have abortions later in the season, decreasing reproductive performance. If they are infected during the pregnancy, then the development of birth defects, deformed calves, and the birth of PI calves will occur. The PI calves will then be a source of virus for the continual infection of other animals on the farm, as well as having stunted growth and poor production themselves. In the initial year with breakdown of BVD, the reproductive losses and losses to associated diseases may be enormous.

After the initial infection of a naïve herd, the presence of PI animals increases the chances of cattle being exposed to the virus prior to pregnancy. In the general cattle population in Australia, the percentage of PI animals is thought to be 1-2%. However even with PI animals present in the herd, there is also the possibility that natural transmission of pestivirus may fail, and cows may become infected whilst pregnant. This will lead to the continuing production of PI calves to continue the cycle of infection.

To determine the bovine pestivirus status of an animal or of a herd requires a good history of the animal and the herd to be taken, as well as samples submitted for testing. Testing for bovine pestivirus aims at detecting the virus and at detecting the antibodies produced by the body against the virus. The virus can be detected in blood tests or by the ear notch test. Antibodies are detected in the blood of the animals. Depending upon the tests performed, an animal may be diagnosed as:

- naïve (no virus and no antibodies against the virus);
- immune (antibodies against the virus and no virus present);
- persistently infected (virus present and antibodies may or may not be present);
- acutely infected (virus and antibodies present in an animal that has just become infected).

When testing a herd to find out its bovine pestivirus status, samples should be taken from older cows that have had multiple calves, first calving cows, and from heifers that have not been joined yet. This provides insight into when the herd has become infected and what control methods may be appropriate for that herd.

Controlling the effects of bovine pestivirus in the cattle herd is based around three options. The first option is to control the exposure of bovine pestivirus, to ensure that animals are exposed prior to joining. There is reliance then upon the PI animals coming into contact with the naïve animals. This is not guaranteed to be 100% effective. However this is how most herds are working at this point in time. It requires that no new stock is introduced to pregnant animals. Disease may not be noticed unless

a PI animal becomes infected with another pestivirus strain and is diagnosed with mucosal disease.

The second option is to eliminate the virus from the herd. The virus does not live a long time in the environment in adverse conditions. All PI animals must be identified and then eliminated, and strict quarantine and biosecurity measures must be undertaken to insure it's not reintroduced. All new stock must be tested before introduction, and AI semen certified pestivirus free. Cattle must also not be kept with other species that can carry the virus, such as sheep and deer.

Testing isn't scary.

Talking to me about a simple blood test is the first step in protecting your herd. By testing a small number of your breeders, you can confirm if they are at risk from pestivirus, or if your herd has been in contact with persistently infected (PI) cattle on your property, on neighbouring properties or off property at agistment or showing.

You will receive a result for each animal tested. This result will be a score from 0 to ≥ 3 and the meaning of this result is listed below.

- 0** – indicates this cow or heifer has never been infected but is at risk if exposed to the disease
- 1 or a 2** – indicates this cow or heifer has been infected but not in the last 12 months
- ≥ 3** – indicates this cow or heifer has recently been infected generally by contact with a PI

Vaccination of the herd is the third option for control of bovine pestivirus. Live vaccines must be used, as inactivated vaccines do not provide enough protection. However the vaccines only provide enough protection for twelve months, so if vaccination is to be used to control bovine pestivirus infection in a herd it must be continued annually throughout the whole herd. Vaccination has been used successfully overseas for the control and eradication of the disease.

The vaccination protocol for the control of pestivirus involves two initial vaccinations 1 month apart, and then a yearly booster. Vaccination is best performed in heifers 2-4 weeks prior to the beginning of joining so that the immunity is generated to protect the calf. Older cows may be thought as previously exposed and so do not need to be vaccinated. A disadvantage of starting vaccination in a herd is the requirement to continue vaccination of the herd each year as the immunity stimulated by the vaccine is not life long like the immunity from natural infection. The benefit of vaccinating prior to joining lies in the improved reproductive performance of the herd, with a higher calving percentage and no birth defects or ill thrifty calves. There is research showing that the cost of the vaccine is covered by the improved reproductive performance of the herd, with more calves weaned in vaccinated herds than unvaccinated herds.

\$100 cash back*

To help you determine whether your herd is at risk, Pfizer is giving the first 350 respondents \$100 cash back on their vet bill for pestivirus testing. Please complete the form below and return it to Pfizer Animal Health pestivirus offer, PO Box 57, West Ryde, NSW 2114 or fax back to 02 9850 3399. We will contact you to explain how to begin the testing, arrange the cash back and answer any questions you may have.

Name: _____

Property Name: _____

Mailing Address: _____

Telephone: _____

Email Address: _____

Herd Size: <200 200-500 >500

Calving Date: _____

*Offer applies to BVDV Diagnostic testing of your herd between September and November 2010 and is available for the first 350 responses. Once you have had your herd tested and received the invoice from your vet you simply send us a copy of the invoice and we will send you a cheque for \$100.00. Claims must be received by 15th December 2010. By enrolling in this offer you consent to Pfizer obtaining a copy of the results conducted by your vet.

Health. Performance. Growth.
www.pfizeranimalhealth.com.au

Pfizer Australia Pty Ltd, 38-42 Wharf Road, West Ryde, NSW 2114. ABN 50 008 422 348. © Registered Trademark of Pfizer Australia. PA10211.

Please feel free to call Benalla Veterinary Clinic on 5762 2788 if you would like to discuss BVDV and your particular situation with one of our vets.

Sources: Pfizer Animal Health and Dr Elizabeth Curnick BVSc(Hons)



FREEMARTINS

When a bull calf and a heifer calf are born as twins, more than 90% of the heifers are infertile. They are known as freemartins.

When a cow is carrying twins, the twin's two sets of blood supply fuse together during early pregnancy and are shared by both calves. The common blood supply allows for an exchange of cells and hormones between the two foetuses. Sexual development in the heifer calf is inhibited by the presence of male cells and hormones from the bull.

The freemartin appears like a normal heifer. A veterinarian can diagnose her as a freemartin by rectal palpation. The ovaries fail to develop in a fully-grown freemartin cow and are only about the size of a grain of wheat. The uterus is also underdeveloped and the udder and teats are small (similar in size to the udder and teats on a steer). The vulva and vagina appear much the same as normal, except there is often a tuft of hair on the vulva.

Freemartin heifers fail to cycle and never become pregnant. The twin bull develops normally. There is no treatment. The best strategy is to permanently identify all heifer calves born twins with a bull, and sell them for slaughter.

Source: Target 10 Communicator, July 2007.



Prescription medications
Help us to help you! Our vets are very busy so please phone ahead to request medications so that we can be prepared for you! Prescriptions requested in the morning will be available after 3pm. Those requested in the afternoon will be ready after 9am the following day. Thanks!

First Aid Tips for Snake Bites in Small Animals

General signs of snake bites

Drooling
Trembling, Excitement
Vomiting
Collapse

First aid treatment

Minimise the animal's movement
Lower the limb
Apply a firm bandage to bitten limb (if known)
Apply an ice pack to the bandage
Seek veterinary attention immediately!

Do you know our team?
Veterinarians:

Dr Bruce McIntyre BVSC (Hons)
Dr Stephan Mischel BVSC (Hons)
Dr Kate Hazeldene
BAnimalSc, BVSc (Hons)
Dr Greg Murphy BSc, BVSc
Dr Anna Burn BVetMed

Veterinary Nurses:

Jodi Day, Amie Freund,
Diane Vegter (trainee),

Practice Manager:

Louise Armstrong

Receptionists:

Helen McCauley, Debra Stafford,
Kay Smith, Tracy Stewart

Assistant:

Latoya Wards

Benalla
VETERINARY CLINIC

16 Church St
Benalla, VIC 3672
(03) 5762 2788

POSTAGE
PAID
AUSTRALIA

*We aim to provide superior veterinary care and services,
delivered with respect and integrity, to our clients and their animals.*



Benalla Business Network

**Award For Excellence
(Large Business)**

**Winner 2009
Finalist 2010**



**Reminder that we are generally closed between
8.30am and 9.30am on Thursday mornings for
staff training.**

Now collecting real corks, plastic corks and aluminium screw tops

from your wine bottles!

**Bring them to us and they will be re-
cycled to raise funds for the
elephants at Melbourne Zoo!**

