



Dawson Creek Veterinary Clinic

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Bovine Viral Diarrhea (BVD)

What is BVD?

Bovine Viral Diarrhea is a disease affecting cattle that is caused by a virus. It has many forms and can cause death, diarrhea, pneumonia, unthriftiness, abortion and infertility.

How do cattle get BVD?

The virus can be spread between cattle by direct contact, through nasal discharge, saliva, feces, urine and semen. One of the major problems in the spread of BVD is that a fetus can get the virus if the cow comes in contact with the virus during pregnancy. If a feedlot calf or adult animal is infected their immune response may fight the virus and they won't become ill or they may develop signs such as weight loss, diarrhea, anorexia (not eating), and fever. It has also been found that wild deer can also carry BVD.

What happens if the fetus is exposed to the virus?

- 1) If the fetus is exposed to the virus before it is approximately 4 months old, its immune system doesn't recognize the virus as a problem. The fetus continues to develop normally and appears normal at birth. However it will still be carrying the virus in its body. These animals are known as persistently infected (PI). These PI animals may carry the virus for life and spread it to other animals in the herd. If there is BVD in the herd, an average of 1-2% of the herd may be PI animals.
- 2) If the fetus is exposed to the virus between 4 and 6 months of age, it may develop abnormally and be born deformed. Some of the common deformities are underdevelopment of the cerebellum (part of the brain), very small eyes and cataracts.
- 3) If the fetus is infected after it is 6 months of age usually there is no problem although abortion may occur.

What happens to the PI animals?

- 1) Some PI animals may grow normally and not show any signs of disease. These animals can be a problem because they will spread the disease to the rest of the herd.
- 2) Others may just be poor doers – grow slowly, have poor haircoats and be prone to infections with other viruses or bacteria. These calves may be more prone to pneumonia.
- 3) Still others may carry the virus and at some point be exposed to a different strain of the BVD virus and develop a disease called Mucosal Disease

What is mucosal disease?

Usually occurs in cattle that are less than 2 years (usually 6-10 months) of age. The virus damages the entire gastrointestinal tract. There is a high mortality rate (this means that if an animal gets mucosal disease it will almost certainly die). Some of the symptoms seen are depression, fever, slobbering, off feed, diarrhea, mucus or flecks of blood in the feces, and ulcers in the mouth although these are not always obvious. Not all of the above symptoms are always seen. Infected animals usually die within days to weeks. Occasionally lameness and ulcers on the coronary band (the junction between the hoof and the leg) can occur.

How is BVD diagnosed?

There are many different tests for BVD. Blood can be collected and examined for either the presence of the virus itself or the antibodies the animal produces in response to the virus. Skin can also be submitted to the lab where the virus is found in the hair follicles. Generally if a producer wants to check his herd for PI animals, small samples of skin (usually by taking a notch of skin from the animal's ear) are used. These samples can be submitted in groups of 15 to lower cost if the whole herd is being tested.

How do I treat or prevent BVD?

Because BVD is caused by a virus there is no treatment (antibiotics do not work against a virus). Prevention is the key! It is possible to test the whole herd and to identify and cull any PI animals but this can be quite time consuming and expensive. Vaccination is critical in preventing the disease. Because the infection of the fetus is such a problem, it is important to vaccinate the heifers and cows so the fetus is also protected. A modified live vaccine is recommended for the best fetal protection (eg Pyramid or Express 5). Cows and heifers should be vaccinated at least 2-3 weeks before being turned out with the bull. Do not use a modified live vaccine in pregnant animals unless they have had a modified live vaccine given to them in the previous year – if you want to vaccinate pregnant animals use a killed vaccine (eg. Triangle).