

Bovine Viral Diarrhoea (BVD) otherwise known as Bovine Pestivirus is now well recognised as a significant disease in both beef and dairy herds in Australia. The virus is capable of causing production losses of up to 50% in recently infected herds and insidious losses in endemically infected herds.

What causes the disease?

BVD is caused by a virus called Bovine Viral Diarrhoea Virus (BVDV). There are a number of ways in which BVDV infection can manifest in a herd and cause economic loss. The most important of these are the immunosuppressive effects, reproductive losses and losses associated with persistently infected animals.

What are the effects of infection with BVDV?

There are many faces of BVDV infection.

Immunosuppression

Primary or acute infections of BVDV play an important role as an immunosuppressive agent or as a potentiator for other diseases. Although the majority of acute infections are subclinical the immunosuppressive effects are responsible for potentiation of a variety of diseases in cattle including bovine respiratory disease (especially in feedlots), salmonellosis, rotavirus, coronavirus and *Escherichia coli* infections.

Reproductive losses

BVD is a significant cause of reproductive loss in Australian cattle herds, particularly when an infection is introduced for the first time into a group of pregnant females. When the dam is infected during pregnancy, the virus can cross the placenta and infect the developing foetus. Depending on the stage of pregnancy, this infection can result in reduced conception rates (presenting as infertility), foetal loss, abortions or stillbirths. When the developing foetus survives to the end of pregnancy, then the calf may be born with severe birth defects, die soon after birth or most importantly, it may be 'persistently infected' with the virus.

Persistently infected (PI) animals

Persistently infected carrier calves play a key role in spreading the virus as they can shed virus throughout their life, acting as a source of infection for other animals. Persistently infected or carrier cattle may or may not be 'poor doers' but they may all eventually succumb to the destructive effects of this virus. This most commonly occurs when these cattle are between 6–24 months of age. However, some PI's have been known to survive and enter the breeding herd. They may die from a range of diseases caused by the immunosuppressive effects of BVDV infection and occasionally they may develop Mucosal Disease.

What are some of the danger signs indicating possible BVDV infection?

- An increase in the number of heifers and cows returning to service after initial artificial insemination or joining
- Heifers and cows pregnancy tested in calf but failing to deliver calves at full term
- Stillborn or premature calves that die soon after birth
- Abnormal calves – weak, unable to suckle, blind or with neurological problems (i.e. can't stand or stand abnormally, wobbly gait, incoordination, trembling), calves with contracted joints, abnormal hair loss or calves that are very small
- Calves that are small at birth, fail to grow properly and suffer other illnesses
- Outbreaks of respiratory disease in groups of cattle
- Cattle suffering from Mucosal Disease

BOVINE VIRAL DIARRHOEA (BVD) continued