



BOVINE VIRAL DIARRHOEA (BVD)

INTRODUCTION

BVD is one of the most important viral diseases of cattle, and it is estimated that 95% of UK herds have evidence of infection. It is spread from cow to cow through direct contact or via faeces. It causes abortion, infertility, stillbirths, weakly calves and scouring problems. It is also associated with respiratory disease in calves, and is known to depress the immune system. Under-performance and infertility are common features of a herd infection.



INFECTION OF THE UNBORN CALF

If the cow is infected in the very early stages of pregnancy, then it is likely that the embryo will be killed, and the cow will eventually return to heat.

If infection occurs in the first 3 months of pregnancy, abortion may occur, but it is more likely that the infected calf will survive. Unfortunately when the calf's immune system develops, it does not recognise the virus as being 'foreign' and so does not mount a response to the virus. This calf, if it survives to term, will be born persistently infected (PI) with the virus. It may die soon after birth, or could be weakly and susceptible to scour & pneumonia etc. Most PI calves become poor doers, and will have died or been culled before adulthood, but some can remain healthy and undetected throughout their lives.

WHAT HAPPENS TO PI ANIMALS?

During the time they are alive PI animals will shed vast amounts of virus into the environment, in fact they become the main reservoir of infection of BVD virus to other animals in the herd. Eventually they come into contact with a slightly different form of the virus, & succumb to "Mucosal Disease", which manifests as a very severe scour, with extensive ulceration of the GI tract. If a PI heifer survives long enough to reproduce, then all her offspring will also be born as PI calves.



HOW DO WE CONTROL THE DISEASE?

- 1) Do nothing. This is false economy, as losses due to abortion, reduced fertility, and depressed cow & calf health will continue to escalate.
- 2) Eliminate the virus without vaccination. This requires milk and blood testing the herd to identify PI animals in the herd, and culling them. Calves & bulk milk need to be sampled for up to four years, to ensure the virus is eliminated. The limitation of this option is that virus could be introduced to the farm at anytime, via purchased cattle or faecal contamination. The level of biosecurity required is often impractical in most farm situations.
- 3) Vaccinate against the virus. Unfortunately the vaccine has no effect on PI animals and we now know that if PI animals are left in a herd, they pump out such a large amount of virus, that even vaccinated mothers may still be able to produce a PI calf .
- 4) If a combination of vaccination, plus identification and removal of PI animals is adopted, then there is no reason why BVD cannot be entirely eliminated from a herd. This is what Scotland is doing.

KEY POINTS

95% of herds infected with BVD

There is no treatment

Infertility and general herd underperformance

PI calves spread infection

Vaccination and PI identification key to management

Buy stock from BVD free herds

PI calves eventually develop mucosal disease which is fatal

High incidence of other diseases (scour/pneumonia etc) due to depressed immune system



Bovilis® BVD

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