

# A NATIONAL BVD CONTROL AND ERADICATION CAMPAIGN

## An example of the AHWS in action

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### Introduction

Bovine Viral Diarrhoea Virus is a pestivirus disease of cattle. It causes a variety of clinical outcomes, including abortion, infertility, immuno-suppression, and most dramatically, mucosal disease.

The disease maintains itself by carrier animals which are persistently infected with the virus. These are animals that were infected whilst in the uterus of pregnant cattle that came into contact with the virus. These persistently infected calves are caused when the mother is transiently infected and then becomes immune, but her newborn calf is permanently infected. This PI animal maintains the virus as part of its own body, its immune system unable to recognise the presence of the pathogen. PI animals may live a relatively normal life for several years, but shed large amounts of virus and act as a reservoir of infection.

PIs are the main and most significant source of infection of BVDv. Removing PIs from the population removes the source of infection and reduces the disease reproduction rate to the point that the virus cannot survive and the disease is controlled. There are other methods of virus maintenance, but they are not considered significant in maintaining the disease.

The virus survives poorly in the environment, and has no significant survival in other species. Once the epidemiology is understood, it is possible and practical to control and eradicate BVDv from cattle populations.

Good diagnostic tests exist to detect carrier PIs, and also to determine the immune status of cattle. Good vaccines exist to protect breeding cattle and prevent the creation and birth of PIs. This disease is eminently controllable.

### BVDv Control Schemes

Three BVDv control and eradication schemes exist in the UK, operated under the guidance and regulation of the Cattle Health Certification Standards (CHeCS). These schemes serve to accredit herds with a BVD status and require adherence of a specific programme of biosecurity and testing to ensure freedom from the virus. For various reasons, they have not been popular. Success has been achieved in total eradication of BVDv from the Shetlands, and virtually from the Orkneys: areas of high density cattle populations with the advantage of isolation and good biosecurity. In other areas, membership of these schemes is patchy.

Many other European countries have embarked upon control and eradication schemes, with rather more success than the UK. Norway and Sweden have been particularly successful.



For the past few years, the potential for BVDv control and eradication has been considered for the UK, driven by the high economic burden that the disease puts on the cattle industry, and the increased awareness of the importance of infectious disease in the health and welfare of cattle.

During 2005, ideas were suggested about how such a scheme may be applied to the UK industry, in line with the principles of the AHWS. Led by Professor Joe Brownlie from the Royal Veterinary College, a small group met to explore the possibilities of a National BVD Control and Eradication Campaign.

## Structures

From an early stage, it was recognised that a national campaign would have to be driven, administered and financed by the industry itself, and for this partnership to work, cattle farmers and their vets had to fully support the scheme. Evidence was required to see if any hurdles existed, and if a strategy needed to be evolved to market the concept of BVD control, before a technical package was devised and implemented.

Three groups were set up:

- A Strategy Group, responsible for overseeing the whole operation,
- A Marketing Group, (Later to be reformed as a Communications Group) to conduct market research and develop plans to engage all partners.
- A Technical Group, to consider all options for control, including new technologies in diagnosis and eradication.

Administrative support for these groups is provided by DEFRA, and the groups are ably and efficiently chaired by Bill Parish from DEFRA.

A market research project was commissioned and financed by a partnership between DEFRA and the Pharmaceutical Industry, represented by the National Office of Animal Health. This produced extremely interesting and useful information which changed the strategic approach to the campaign, and emphasised the need for a careful and comprehensive communications strategy. The results of this survey will be published elsewhere, including the wider issues such as the ownership of disease and the knowledge gap that exists in the farming and veterinary sectors.

The Strategy Group considered possible ways of piloting potential schemes, modelled on a project already in existence in Somerset and Scotland, financed by DEFRA and run by the RVC. A particularly keen group of farmers in East Anglia volunteered themselves for a pilot project. This centred on a small but significant club of Holstein Friesian Breeders in Norfolk and Suffolk. An initial meeting with this group in the late summer of 2006 confirmed their enthusiasm for this project. A further meeting with their veterinary surgeons in November 2006 established the nucleus of a control and eradication campaign in Norfolk and Suffolk.

Meanwhile, a structure of laboratory and technical support had to be created to run the scheme within the principles of the AHWS, with partnership, engagement and cost sharing.

The scheme was to be financed by the farmers themselves through paying their own vets and laboratories who would work to a structured programme devised by the technical group and strategy group. Pump priming was needed to subsidise the initial diagnostic screens and some of the administration. This was kindly supplied by EBLEX as part of their research budget, and this pilot project would yield valuable data on the effects of successful control which would be used later when the campaign rolled out nationally.

### **Current position**

- Scottish Agricultural Colleges, under the leadership of George Caldow, have been appointed as the lead laboratory and technical support for the pilot project after a tendering process culminating in interviews and selection by the Strategy Group. They are now ready to start the initial screens.
- Farmers and vets have been met and informed of the scheme, with about 50 farmers keen to get going immediately.
- A local steering group will oversee the project in Norfolk and Suffolk

- Administrative and technical backup is being provided by the RVC under the direction of Professor Joe Brownlie.
- EBLEX are funding much of the laboratory work to provide the initial screens.
- A logo has been devised and now adorns all scheme correspondence.
- Communications through the farming press has been arranged to ensure that there is awareness.

This pilot will serve as a regional scheme which can be rolled out regionally over the whole of the UK.

A National BVDv Control and Eradication campaign will work, and uphold the principles of the AHWS because:

- The disease is economically damaging and significant. Models exist to demonstrate the economic effects
- All partners can be identified and stand to gain in the eventual eradication of BVD. There is a general will to get involved
- The disease can be readily diagnosed, using reliable tests. Surveillance is possible.
- The disease can be controlled and eradicated using a variety of options which can be adapted to any farm situation. The programme is inclusive rather than exclusive
- The control and eradication programmes fit with the principles of health planning and can become part of an active health plan on any cattle farm.
- Benefits to the industry outweigh the costs, and the industry can justify the costs of control and eradication in the long term. Costs can be shared, but without any significant cost to DEFRA.

There are potential threats to the success of the campaign:

- As persistently infected cattle are identified and removed from infected farms, they should be slaughtered. This may be a significant and unpopular cost of some farms. It is possible that these animals may be traded, legally. This may spread the disease. It might be an opportune time to consider legislation, or clear interpretation of current legislation, to discourage the trading of known infected animals.
- Some of the hurdles highlighted in the survey will have to be addressed, particularly the knowledge gaps and priority issues. A simple communications strategy on its own may fail to achieve this, requiring a more proactive approach and the sorting of the TB issue.
- The delivery of the campaign relies on local vets who are motivated and well informed. In some low density livestock areas, there may not be the numbers, knowledge or enthusiasm to get involved.

- Many national disease campaigns start with volunteers, and then require incentives and disincentives to retain the momentum. The whole campaign relies on total eradication to remove the threat of re-infection and thus to reduce the need for vaccination. Incentives and disincentives may have to be addressed in the years to come.
- The implementation of a co-ordinated regional expansion of the programme in the years to come relies on a funded and motivated strategy group, hopefully directed by the Cattle Health and Welfare Council. This group must be retained and allowed to maintain their enthusiasm and expertise to keep this programme running.

The National BVD Control and Eradication Campaign is an example of the AHWS in action. It now looks forward to being taken as a working project by the embryonic Cattle Health and Welfare Council as part of their portfolio of responsibilities. The current structure of the scheme itself is an excellent example of how industry can work in partnership, with the help of DEFRA as a catalyst and hub for interaction.

RJS  
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