

Multiple benefits from IBR control

Improved production and health have been observed by a Welsh vet when a strict vaccination protocol for controlling IBR has been introduced to dairy herds.

For 18 months, IBR had been a "real and costly problem" in the Twose family's 400-cow herd at Maenhir near Whitland in south Wales. Under guidance from vet Rob Davies of Allen & Partners in Whitland, a live vaccine against the cause of IBR, Bovine Herpes Virus-1 (BHV-1), had been introduced with some improvement. But he says cow performance and health remained below par.

"First we tried shortening the interval between booster vaccinations, but that didn't have the effect we were looking for," Rob Davies explains. So he set about researching the options in detail, talking to a number of IBR specialists in the process. His conclusion was that using an inactivated vaccine as a follow up to the live one might be the solution.

Financial benefits

Within days of introducing this regime, farm partner Richard Twose reports that the herd responded with a two litre/cow/day uplift in milk yield, worth £180/cow in extra milk income over a 305-day lactation. "Cows were just not getting going properly after calving," he says. "Since the change, in addition to giving more milk, cows are healthier and generally more thrifty."

Mr Davies suggests that understanding this requires some knowledge of the disease itself. "The herpes virus that causes IBR behaves in a very similar way to the one responsible for cold sores in humans," he explains. "Infected cattle get sores in the throat and upper windpipe rather than on the lip in humans, otherwise they are very similar conditions. In both, the virus is carried for life and, triggered by stress, can re-emerge

and cause fresh bouts of illness.

"With this in mind, I believe each types of vaccine does a different job. In cows that have not been infected before—what scientists call 'naïve' animals—the live vaccine fools them into thinking they have been infected and stimulates the immune system to create protection against a subsequent real infection.

"In cattle already carrying the virus, the inactivated vaccine—often called 'dead' by vets and farmers—is more effective than a live one at stimulating better protection in the face of the virus's re-emergence. Stress factors known to trigger this can include calving, changing groups, change of diet, heat stress and other infectious or metabolic diseases."

In effect, Rob Davies says live vaccine mainly protects against animal-to-animal transmission, while inactivated vaccine offers protection in the face of re-activation within the same animal. Inactivated vaccine has also been shown to be more effective than live at reducing viral shedding by IBR carrier animals, thereby reducing infection pressure on naïve herd mates.

However, reactivated carriers can be difficult to identify because they may not show obvious signs. There may only be a temporary and mild discharge from the nose or eyes, or slightly raised breathing rate and body temperature, or all these signs together. But equally likely, cattle may just appear 'a bit under the weather'.

For clients, Rob Davies has recently introduced a protocol that



Vet Rob Davies.

a number are now implementing. This involves use of a live vaccine first across the entire herd, including breeding bulls, followed by the inactivated vaccine at the manufacturer's recommended intervals. If the interval before re-vaccination is allowed to exceed this,

he insists that clients restart the protocol from the beginning with live vaccine.

Replacement heifers are enrolled onto the vaccination programme before entering the milking herd, whereupon they merge into the whole-herd re-vaccination pattern without lapse.

Based on bulk milk antibody surveillance in client herds, Mr Davies reckons 75% to 80% of herds in south Wales are positive for IBR. In the whole of England and Wales, a 1998 paper in *The Veterinary Record* indicated 69% of dairy herds were seropositive—but he suggests the figure is much more likely to have risen than subsided since then.

Immunosuppression

There is also evidence that BHV-1 can cause immunosuppression. At another large scale dairy unit, Rob Davies says a dedicated sick cow stockman was spending three to four hours a day attending to 35-40% of freshly calved cows at any one time. Following introduction of his IBR protocol, Mr Davies found this time was reduced to about one hour a day. Displaced abomasum incidence fell from one a week to one a month and there was a marked increase in conception rates from 27% to 38%. Like

the Twose herd, Mr Davies reports that this client also saw a two litre/cow/day yield increase.

The vaccines employed by Rob Davies are 'Risposal IBR-Marker Live' and 'Risposal IBR-Marker Inactivated'.

IBR control abroad

At the Lambert, Leonard and May practice based in Whitchurch, Shropshire, vet James Allcock is concerned at the lack of progress nationally against IBR. "We continue seeing problems with this disease," he says. "Of course, there are local successes on specific farms where effective control plans are implemented, but there are also failures where defences are not maintained. Overall, we suspect that our national IBR status is not improving and may even be going backwards."

In contrast, Mr Allcock says eradication of IBR is being pursued in a number of European countries. These include Germany, where in 2009 he and a group of colleagues took a study tour looking for clues about more effective control plans for UK farms. Foremost among these was the importance of good knowledge among farmers, which he found manifested itself in a number of ways.

"In Germany, good recognition of IBR's importance creates healthy farmer involvement in planning and implementing regional eradication plans," he says. "Financially, we found that high awareness of IBR played a part in creating a two-tier market for youngstock. The prices of calves from IBR controlled farms was about €30 a head higher than those of unknown status. This simple differential really helped get the message across to everyone."