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SCHMALLENBERG DISEASE VACCINATION

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As everyone will know by now, a vaccine against Schmallenberg Disease has recently been introduced by the pharmaceutical company MSD – the same company that responded very rapidly in a similar way to produce the BlueTongue vaccine in 2008. This new vaccine, Bovilis SBV, is licensed for use in both cattle and sheep. Everyone must be given credit for getting this vaccine into production only 18 months after this new disease was recognised and the novel virus found.

Bovilis® SBV
The world's first Schmallenberg vaccine

One significant drawback of producing this vaccine so swiftly is that much of the safety and efficacy data that is usually available when a drug is first put onto the market is just not there; all these tests take time, and the priority was to make this vaccine available to livestock keepers as soon as possible. So currently the vaccine is only *licensed* to be used in non-pregnant animals, and, for the moment at least, the duration of immunity is unknown.

Obviously the big question for all livestock keepers is 'Should I vaccinate?' The answer is unfortunately not that straightforward …

Schmallenberg Disease is transmitted from animal to animal via biting midges. It can probably be carried by all the different species of midge we have in this country. As there is no transmission of infection either between midges themselves or from a female midge to its own eggs, each adult midge has to pick up a new infection from an infected animal (cow, sheep, goat or camelid) when it bites, and then pass this infection to the next animal on which it feeds. On average, each midge will only feed twice in its life span, so each midge has only one opportunity to spread the Schmallenberg virus.

When a susceptible animal is infected, the virus is present in the blood for about 7 days – and of course during that time is able to pass infection to any new biting midge. After about a week, the host animal has mounted an immune response and becomes protected from the disease.

The type of disease caused by this virus depends on the state of the animal at the time of infection. Non-pregnant animals (cattle and sheep) may show no outward signs of disease; or there may mild-moderate disease with high temperatures, diarrhoea and 'milk-drop', mainly seen in dairy cattle.

The most devastating, and well publicised, effect of infection with Schmallenberg virus is if it affects pregnant animals at a critical stage of fetal development. This can lead to non-viable calves and lambs reaching term with a number of congenital abnormalities, especially fused joints and brain lesions. Many of these require at least some assistance to calve or lamb; and at worst either a Caesarian Section or embryotomy to remove the fetus and save the dam.

The critical period for these types of problem are if ewes are exposed to infection when they are 28 – 60 days in lamb or cows at 80-140 days in calf.

It is also possible that the virus can cause early abortions and infertility in cattle but this has not been proven.

With this in mind, it would make sense to consider herd and flock vaccination if there are going to be any animals at the critical (ie early) stage of pregnancy during the midge season.

But when is the midge season? In normal years it could be considered to be from May to

September/October, but this is highly weather dependent. There have also been some infections that, in other parts of the country, have appeared in mid-winter which would suggest some later midge activity when animals are indoors. This might suggest that all breeding females are at risk, whenever they are to be served?

Schmallenberg Disease has now been recognised in all counties in England and has been seen in Scotland, most recently in Aberdeen. In Cumbria, there have been confirmed cases in both calves and lambs, but not the huge outbreaks like those seen in the south of the country over the past two seasons. DEFRA have also declared this to be a 'low impact' disease in most flocks and herds.

From bulk milk sampling dairy herds over the past year, within the Practice there has been some exposure to Schmallenberg Disease Virus but we have not recognised any clinical disease. It is also becoming clear that even if a bulk milk sample is positive for Schmallenberg Disease antibodies, this may actually only represent exposure and immunity of a small number of cows: a large majority of the animals within the herd could still be susceptible.

We anticipate that there will be more exposure of Cumbrian livestock to Schmallenberg Disease over the coming year as the disease moves north. The rate at which this happens, and the effect that it is going to have on production, is impossible to predict as there are so many factors involved.

So 'Should I vaccinate?' you are still asking.

It is expected that vaccine uptake will be high in the south of the country where they have experienced significant losses in the past, especially earlier lambing flocks which were exposed to a high number of infected midges at that critical stage post tupping.

It would be highly advisable to vaccinate ewes in earlier lambing units here too as they will be at most risk. For sheep, one injection is required at least 3 weeks prior to breeding and should not be given with any other vaccine (because, as mentioned before, there is no trial work available to guarantee either its safety or efficacy).

For more traditional, later lambing flocks, vaccination can only be of benefit, but the risks of disease are much more difficult to quantify.

In cattle, two vaccinations have to be given 4 weeks apart, again to be completed at least 3 weeks prior to service and with no other concurrent vaccine administration … following the Data Sheet recommendations. This does not mean that vaccination during pregnancy will cause any problems, but the company cannot make this recommendation as they have no specific proof that this is the case.

For the vast majority of suckler herds in this area, the bulls have already been turned out and hopefully some animals will already be pregnant. Over and above this, logistically it may be difficult to actually start a vaccine programme at this time of year anyway. But you may consider these problems are worth risking and overcoming to potentially protect your next calf crop?

All year round calving dairy herds may be able to fit a vaccination programme into their management system, to get animals vaccinated prior to service. But this would mean potentially vaccinating animals during that highly susceptible post calving period approaching peak yield when the cow's immune system is at its most stretched. Is this a good time to vaccinate?

It all produces more questions than answers.

But, 'Should I vaccinate?'

Bovilis SBV is available in 10 and 50 dose bottles, remembering that cattle need two doses to start their primary vaccination course.

Prices are broadly in line with the other vaccines that are used on farm. Whether vaccination is going to benefit each and every farm in our Practice is impossible to say. Each farm is different and there is no 'one size fits all' answer to the question of vaccination.

'Should I vaccinate?' You should seriously consider it, but pick up the phone and discuss things with us first ...