Vaccination to protect herds from Schmallenberg virus is at least 18 months away

Outlook and action for virus

Midge season is just around the corner so what, if anything, can dairy producers do to help protect their stock from the vector-borne Schmallenberg virus?

text **Rachael Porter**

The number of confirmed cases of Schmallenberg disease on UK dairy units is increasing as spring calving progresses.

To date the virus has been identified on 238 farms – 25 positive cases have been diagnosed in cattle and 213 in sheep. But this is the legacy of 'old' infection – the result of pregnant cows and heifers contracting the disease in late summer or autumn 2011. What can producers do to protect their stock this year, once the vector midges that carry and spread the virus become active again?

"Realistically, there's nothing they can do that will protect their livestock completely," says the Institute for Animal Health's Pete Mertens. "Not until a vaccine becomes available."

Strategy in Australia

But Pirbright's head of the vector-borne disease programme says that there is a strategy that could help reduce the impact that the disease has on livestock fertility and productivity.

"There's a strategy that dairy producers use in Australia to cope with similar vector-borne viruses that affect the unborn foetus. They ensure that cows and heifers that are not protected from the virus – in other words they haven't already had it – are not in the critical part of their pregnancy during midge season," he explains.

"Older cows with immunity can be in calf, but serving naïve stock is delayed until the midge season ends."

He says that this is something that UK dairy producers could consider, if Schmallenberg takes hold.

But he stresses that no one really knows what's going to happen in 2012 with regards to the virus. Some scientists say that, best case scenario, the virus may not resurface once temperatures rise and midge activity resumes – they believe it could burn itself out. But more likely, and realistically, is that it will spread across the UK.

"Probably north and west of where we're finding sero-positive herds now and we'll see fewer cases in the south and east as livestock become immune to the virus," says Wim van der Poel, research leader at the Central Veterinary Institute, Wageningen University, in the Netherlands. He's also Professor of Emerging and Zoonotic Viruses at Liverpool University.

"Exactly how far it will spread really depends on the type of midge that's spreading the virus and how fast the virus replicates within the vector, and other factors such as weather conditions. A long, warm summer – like the one we had in 2011 – could certainly see the disease spread more easily."

More frequent

Warmer weather and longer summers could be contributing to other factors and making outbreaks of vector-borne viruses like this more frequent in years to come. To this end, Mr van der Poel says that the focus must be on developing systems to detect them and help scientists, vets and producers stay one step ahead.

Professor Mertens stresses that it's not something that can simply be put down to climate change. "Yes, the warm weather will aid the spread because it allows the vector midges to thrive."

His 'take-home' message is similar to Mr van der Poel's: "We might get one virus under control – as we did with Bluetongue and as we hope to do with Schmallenberg – but what's next? We need to get systems in place to improve how we identify these viruses and stay one step ahead with vaccination."

Vaccination is the only way to protect your herd from this disease – but it's at least 18 months away.

"There are several companies working on a vaccine at the moment but it takes a long time to test vaccines and get all the required licenses and approvals. But we know that vaccinating works. Look at Bluetongue – just two years and it was gone."

But what about now? Could fly-control products help to keep the biting insects away? And what about keeping animals indoors – could that help?

"Pour-on products aren't going to help," says Professor Mertens. "The fly or midge only dies once it's bitten a treated animal, so at that point it's a little too late if it's carrying a virus.

"Keeping pregnant animals indoor could help, but it's not always practical.

Extremely difficult

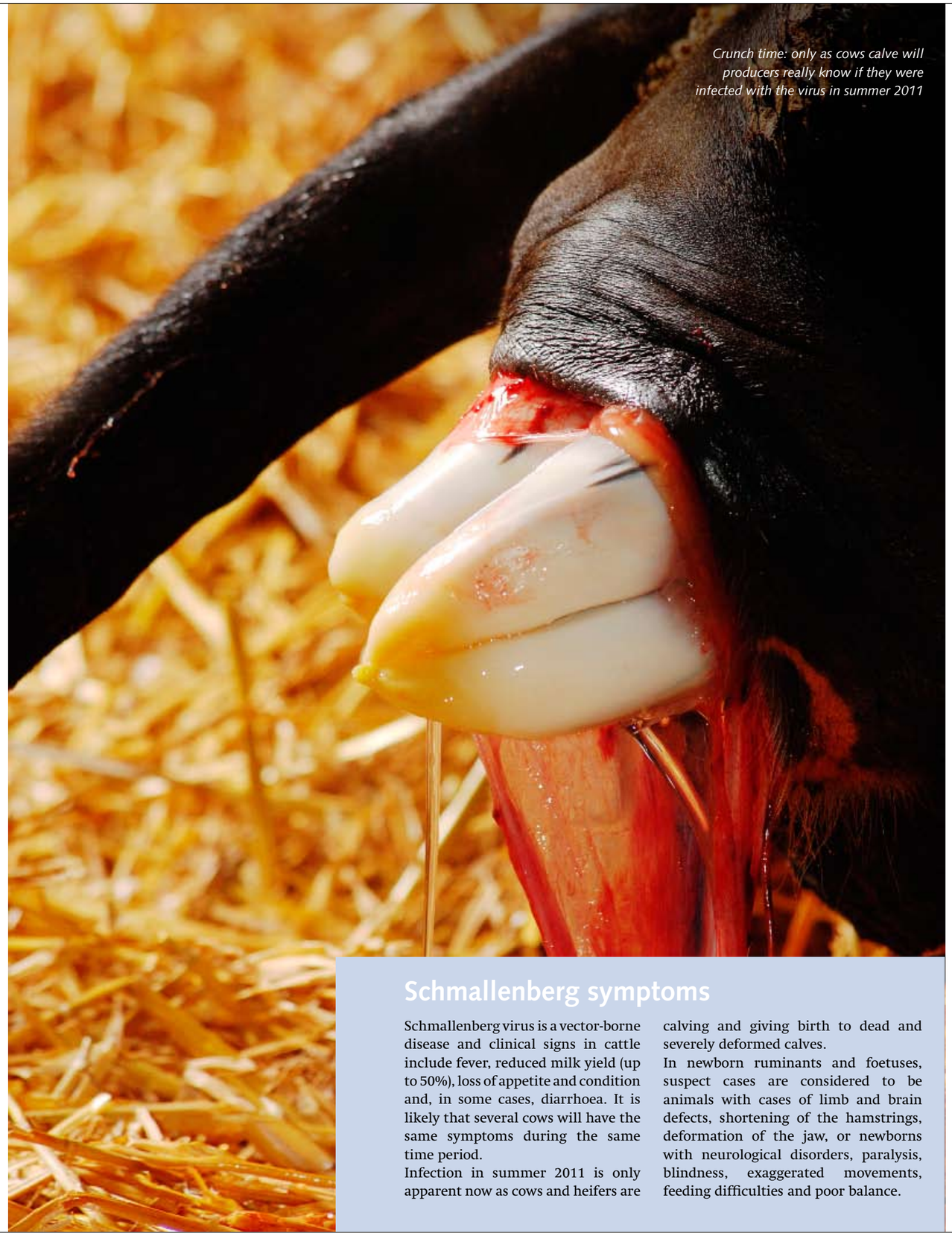
Mr van der Poel agrees that there's nothing that producers can do. "Controlling the risk to livestock is extremely difficult because it's not possible to control the midges.

"During the Bluetongue outbreak, some producers brought their livestock inside early in the evening, when midge activity levels are typically at their highest. And some said that it helped to reduce the number of infected animals. Scientists, however, were not convinced – the levels were not very significant."

Like Professor Mertens, he says that a strategy to postpone the mating of some animals, so they're not in the most critical stage of pregnancy (thought to be between three and five months in cattle) when the virus vectors are active, could be something to consider if the virus takes hold in 2012.

"But it's a case of wait and see. I expect that there will be a lot more confirmed cases of Schmallenberg in the UK before the spring and early summer is out – there are a lot of herds yet to calve.

"The good news is, unlike Bluetongue, Schmallenberg does not kill adult livestock and they do become immune. And any subsequent pregnancy is likely to have a positive outcome." |



Crunch time: only as cows calve will producers really know if they were infected with the virus in summer 2011

Schmallenberg symptoms

Schmallenberg virus is a vector-borne disease and clinical signs in cattle include fever, reduced milk yield (up to 50%), loss of appetite and condition and, in some cases, diarrhoea. It is likely that several cows will have the same symptoms during the same time period.

Infection in summer 2011 is only apparent now as cows and heifers are calving and giving birth to dead and severely deformed calves.

In newborn ruminants and foetuses, suspect cases are considered to be animals with cases of limb and brain defects, shortening of the hamstrings, deformation of the jaw, or newborns with neurological disorders, paralysis, blindness, exaggerated movements, feeding difficulties and poor balance.