

Bovine TB blood test can identify both infected and infectious cattle in 'chronic' herds

# Test aids bTB management and prevention

A highly sensitive blood test for bovine TB is now available for 'exceptional private use'. But what does this really mean for UK producers and how can it be used to help herds become – and remain – disease free? We questioned a leading UK cattle vet to find out more.

text **Rachael Porter**





Dick Sibley: "This test can help to tackle disease in 'chronic' herds"

A specific blood test for bTB can now be made available to help herds with chronic bovine TB breakdowns. The Animal and Plant Health Agency (APHA) granted access to the test for 'exceptional private use' in England in early May. But Devon-based vet Dick Sibley, who incorporated the Actiphage test into a disease management strategy in autumn 2017 and successfully helped a 350-cow herd that had been closed with bTB since 2012 to test clear, says that this is not a silver bullet.

He says that it's a tool, albeit an important one, for tackling the disease in herds with a chronic problem – those that have been under disease restrictions for several years. "And it adds another layer to the Government's existing control measures and takes a deeper look at what's going – both in the herd and individual animals. That's vital when tackling a chronic bTB problem. Most herds will eventually test clear – typically within a year – following Defra testing and protocols."

*Who would have access for 'exceptional private use'?*

"Chronic herds, but there are several hurdles before access will be granted. Gaining permission to use this test from APHA will be difficult, even where herds meet the criteria. And it all must be done through your vet. They will have to request APHA permission for 'exceptional use' of Actiphage and the other non-validated tests required to see if cattle are infected and if they are infectious. The criteria that must be met include herd supplementary interferon testing. This is not particularly popular with producers because they believe that cattle are sometimes culled unnecessarily."

*How does the test work and why is this different to the current reactor testing approach?*

"This test measures the presence of live bacteria in the blood. Results are available in just six hours. It is a totally

different approach to testing cattle for bTB using the reactor test and it allows for enhanced testing, early detection and 'containment' of infected animals. We have used it to complement the routine bTB reactor tests.

"We don't have all the answers yet – this test alone won't eradicate the disease. But it's about predicting, preventing and managing the disease as far as we can. This blood test tells us more about what's going on within a herd – which cows are not infected with bTB, which cows are infected but are not infectious, and using other tests in parallel to Actiphage, which cows are infected and are also infectious and able to 'excrete' and potentially spread the disease.

"What's interesting is when a cow that didn't react to the routine test then tests positive in a blood test. And we've also found that cows that test positive but are not infectious can also become infectious at some point in the future.

"Typically, about 15% of infected cattle will go on to become 'infectious' and excrete the disease. This is similar to how TB behaves in the human population, which is also interesting. It's estimated that up to one third of the world's population has latent TB, which means that people are not ill with the disease and they are unable to transmit it. But 10% will move from the latent to the 'active' phase."

*How will this knowledge help to control and eradicate the disease?*

"If vets and producers have the full picture – and they know which cows are disease-free, which are infected and which ones are infected and infectious – then they can manage the disease more effectively.

"We put a disease management control plan in place that is similar to the approach taken to control Johne's disease, by looking at all the potential routes of transmission from infectious cows to susceptible ones. Cows that test positive for bTB by Actiphage are then tested every 60 days, using a PCR test, to see if the disease has become 'active'. If it has and the animal is infectious then she's isolated and culled."

*Why do some infected cattle become infectious?*

"Stress is a factor – particularly nutritional stress. And any concurrent disease challenge. I have seen latent bTB triggered in a herd by BVD infection."

*How much does the test cost?*

"It's not easy to say because the trial work on the 350-cow herd was supported by both Nottingham University and PDB Biotech, which developed the test. It has said that the test will cost £12 per sample. But the test itself is just part of a plan that needs to be drawn up with the herd's vet. That said, the costs will be easy to justify compared to the cost of on-going bTB reactor testing, restrictions, culling, and other financial losses. There's also the stress of managing a herd that's been closed with bTB. This test, combined with a disease management plan, will put producers and their vets back in control."

*Can producers claim back costs for blood testing or claim compensation for any cattle that test positive with this blood test?*

"No. Only animals testing positive to the conventional routine reactor tests are eligible for compensation from Defra. But the producers I'm working with have been closed with bTB for several years.

"The costs they are incurring through being closed, including routine testing every 60 days and being unable to sell stock and other restrictions – not to mention the stress and frustration – easily justify the additional costs incurred by this approach. It's a long-term and proactive approach and these herds will eventually become officially bTB free."

*What about infection sources outside the herd?*

"As part of the TB management plan, we surveyed and tested all the badgers in the locality. More than 30% of the latrine samples tested positive, highlighting a risk to grazing cattle. So we also funded badger vaccination, supported by Brian May, in the areas surrounding the herd we've worked with. It's important to take a holistic approach. There is disease in the wildlife population, but there's also disease in cattle. Both areas need to be addressed."

*So what can producers with chronic bTB infected herds do now?*

"Talk to your vet about blood testing and the possibility of developing a comprehensive plan. I'll be presenting a paper on the test and the work I've done, with Nottingham University and PDB Biotech, at the BCVA conference in October, so urge your vet to come along or to give me a call." |