

Mastering Johne's – a decade of experience

One Staffordshire-based producer shares his Johne's disease control experiences during the past 10 years and encourages others, that if they haven't already, to 'get cracking' and control the disease on their units.

TEXT KAREN WRIGHT

It was a producer meeting, hosted by Tesco's in late 2009, with a dairy vet speaking about Johne's, that got Richard Brittlebank thinking. "It was a bit of a wakeup call," says the Staffordshire-based producer, who runs the 180-cow Bryley Holstein herd at Tean Leys Farm in Leigh, near Uttoxeter. "The Johne's symptoms being described by the vet were hitting home. We were experiencing health issues that shouldn't have been happening, such as repeat mastitis cases, high cell counts and fertility issues. And this was despite doing everything by the book. We had a 40% replacement rate with only a few voluntary culls – this was far too high."

The vet's presentation was so compelling that Richard signed up to screening his cows for Johne's, using his routine NMR milk samples. "And what came back after a few tests didn't make for good reading," adds Richard.

"There were pages of 'red' cows – these were cows where Johne's antibodies were detected. And, as I now knew what I was looking for, I started to spot the signs of infection in cows."

Problem cows

Culling all infected cows wasn't an option – there were too many – but the culling rate was increased to take out the more problematic cows. Richard worked with his vet Gill Whitehurst, from Glenthorne Vets (part of the IVC Evidensia Group) at Uttoxeter, to draw up and implement a control strategy.

"We had to pick our battles," says Gill. "We couldn't implement all the control strategies at once – few herds can – but we focused on the key areas here, which were the calving area and colostrum management."



Until this point Richard had been pooling colostrum; unaware that he was mixing colostrum from Johne's cows with that from clean cows and, therefore, increasing the chances of spreading the risk of infection to all new-born calves.

"Our first step was to test and freeze colostrum from known 'green' cows," he says "At the time, having enough to go around was a challenge."

Another issue was finding the room to keep infected cows separate at calving. "There wasn't room to calve high risk cows individually. It was a logistical challenge, but we divided the transition yard and grouped cows according to their Johne's status as they approached calving.

"Calves from infected cows were snatched and fed the frozen colostrum and we also paid much more attention to hygiene in the dry and calving yards."

New research

For Gill, Richard's herd was one of the first to get involved in a Johne's control programme. "We've learned a great deal about managing Johne's during the past 10 years," she adds. "We didn't have a perfect plan at first but, over time, we've managed to reduce the prevalence of Johne's cows in the herd from 20% to 1%."

Gill admits that it's not always possible to put in a belt-and-braces control plan at first, but screening and accessing the disease status, and then tackling the key issues, is the starting point. "From there, you can tighten up control in other areas. The process has also taught me the importance of the regular risk assessments, and keeping up to date with new Johne's research and adapting my advice accordingly."

Richard's commitment to regular screening of individual cow milk samples through HerdWise means that he and his vet always know the current Johne's status of the herd.

HerdWise screens milk for antibodies that are produced

Johne's facts

NMR's Herdwise Johne's screening service tests milk samples for antibodies to Johne's disease. While clinical symptoms may not be seen in a cow until the disease is in its late stages, it leaves a trail of destruction. MAP (*Mycobacterium avium paratuberculosis*) is shed in large numbers in faeces and can be found in colostrum and milk. Animals are infected by ingesting MAP and, consequently, new-born calves are particularly susceptible if they are left to suckle infected dams.

Herds typically become infected where stock, including bulls, are introduced the herd.



Richard Brittlebank with vet Gill Whitehurst

in response to *Mycobacterium avium* subspecies paratuberculosis (MAP) infection. MAP is the Johne's-causing bacterium. The quarterly screening results classify a cow as red if she has had two or more positive tests in the past four, or amber if she has had one positive test in the previous three tests. This indicates those cows most likely to be infectious. Green cows have had at least



Routine Johne's control at Tean Leys Farm

- All cows routinely screened using HerdWise
- Colostrum from Johne's 'green' cows tested and frozen
- 'Red' and 'amber' cows identified and kept in individual pens at calving
- 'Red' cows not bred and culled within three months of diagnosis
- 'Amber' cows are either not bred and culled at the end of lactation, or bred to beef
- No waste milk is fed to calves

two tests and the results have shown no sign of infection. HerdWise results for Tean Leys Farm are shown in Figure 1 and 2. "As consecutive test results came back in the first year or so, levels of affected cows were increasing," says Gill. "This was because the control measures implemented only protect calves born from then on, and there are still animals in the system that have already been infected before the control measures were put in place that are giving positive tests.

"As the worst offending cows were culled and our control protocols took effect, then the number of affected cows started to fall. This can be seen in many herds and may be a bit unnerving," she says.

"You have to have realistic expectations on the time frame to controlling Johne's. But the progress does become obvious within three or four years."

Projected rates

Ignoring Johne's was not an option for Richard. "The projection of infection rates, had we not started testing for and controlling the disease, was frightening," he says. He believes that buying in 40 heifers to take his herd from 140 to 180 cows either introduced the Johne's causing bacterium MAP into the herd or significantly increased its prevalence. "We'd never tested for Johne's so we couldn't be 100% confident we were Johne's free, but things certainly got worse a few years after we bought the batch of heifers." Glad to be reporting his success story 10 years on, Richard

Colostrum from Johne's 'green' cows is tested and frozen

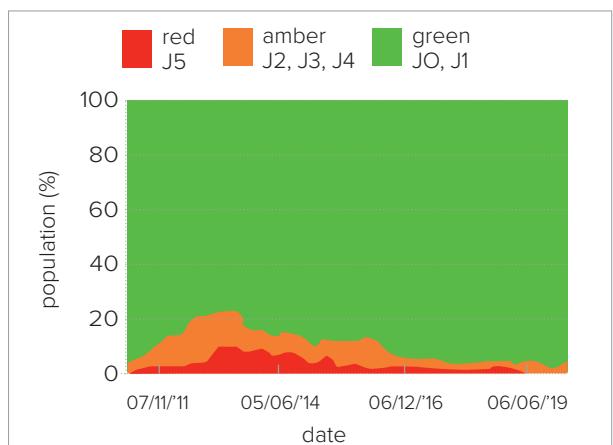


Figure 1: HerdWise Johne's screening results 2011 to 2019: historical data percentage

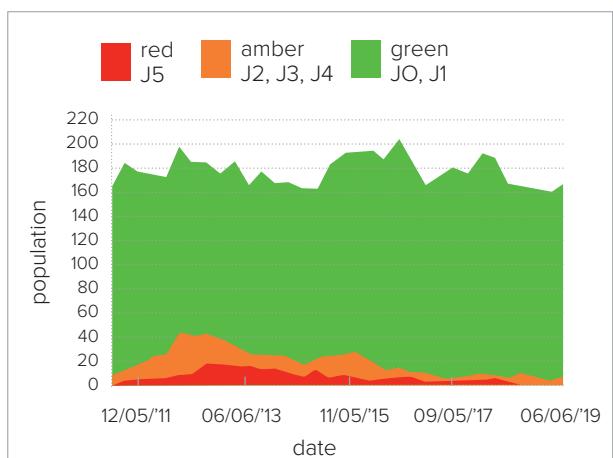


Figure 2: HerdWise Johne's screening results 2011 to 2019: historical data value

now has only one red and four amber cows as of the latest HerdWise results. And he has the facilities and the protocols in place to manage these cows and avoid any risk of cross infection. The replacement rate in this herd, which averages 9,000kg of milk, has almost halved to between 20% and 25%. "We're now able to select our culled on factors like conformation and yield," says Richard. "We've far fewer health issues and our vet bills have fallen."

Replacement heifers are now all home bred and the herd is strictly closed. He says that if he did have to buy in stock then they would have to be accompanied by reliable records and a history of 'negative' results – and not a one-off test.

Richard admits that he's pleased he bit the bullet. "It's been hard work, but the results are very satisfying. The herd is now far more trouble-free. This is exactly the detail I can offer producers buying my heifers. It's now typical to be asked about Johne's disease and I am able to give them the answer with a high degree of confidence and the accompanying paperwork."

Richard still maintains the strictest controls and screens cows quarterly through HerdWise. His business meets the new Red Tractor protocols required by Tesco (and most other buyers), that states suppliers must engage with the National Johne's Management Plan (NJMP) and have a declaration signed by a BCVA-accredited Johne's vet. |