

New test for Johne's disease could be a game-changer

A promising new test for Johne's disease in dairy cattle has been developed at the Institute for Global Food Security (IGFS) and School of Biological Sciences at Queen's University Belfast.



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The new test promises to be both more rapid and sensitive in detecting the infectious agent (*Mycobacterium avium* subsp. paratuberculosis [MAP]) of Johne's disease in veterinary specimens and is showing greater detection capability than the milk enzyme-linked immunosorbent assay (Elisa) that is currently used. Crucially it detects live infectious agents, not just antibodies against MAP as are detected by the milk Elisa.

In a recent study, the new test could detect more infected animals by milk testing than by milk Elisa, so it could potentially facilitate control of Johne's disease faster. As well as bovine milk, the new test can also be applied to faeces and blood from livestock.

Prof Irene Grant and her post-doctoral researcher Dr Antonio Foddai at IGFS developed the test, and their research was published in the open-access journal *Applied Microbiology and Biotechnology*. They hope to now move to the applied stage of the science with further development and validation of their test for MAP infection at farm level.

Prof Grant said: "As farmers will know, Johne's disease is an endemic animal health issue worldwide, particularly in dairy herds. It is certainly present in Northern Ireland dairy herds, but the true prevalence of Johne's disease in the local context is not accurately known.

"I hope our test will offer more accurate, rapid and quantitative results. Therefore, it will help farmers and vets make more informed decisions about the infection status of animals in order to control the disease more effectively within herds.

"I also hope it will generate more accurate data on the prevalence of Johne's disease within Northern Ireland and paint a better picture of the problem."

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