

Shorter-term risk of *Mycobacterium bovis* in Irish cattle inconclusive reactor to the single intradermal comparative tuberculin test

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In Ireland, bovine tuberculosis (bTB) is detected using abattoir surveillance and an annual single intradermal comparative tuberculin test (SICTT) on all cattle. Animals are standard inconclusive reactor (SIR) if the bovine response is >2 mm and 1-4 mm > the avian response at the SICTT. The owner has three choices for SIR management: 1 have the SIR retested after a minimum of 42-days (inconclusive reactor retest, IRR); 2 slaughter the SIR and, provided it has no visible lesions, have a full herd test 42-days after the SIR left the herd; 3 slaughter the SIR and have lymph nodes bTB examined by histology and/or culture. We examine the bTB risk for SIRs at slaughter prior to the IRR, at the IRR, and the future bTB risk of TIR animals ('transient SIRs'; SIRs negative to SICTT at IRR) that left the herd within 6 months of the IRR. We also investigate factors associated with the future bTB status of SIRs at slaughter prior to the IRR and at the IRR. The study population included all SIRs identified between 2005 and 2009 inclusive in a herd otherwise Officially TB free (OTF). Between 11.8% and 21.4% of SIRs slaughtered prior to the IRR were confirmed bTB positive at *post mortem* (using histology or culture if histology was not definitive), compared to 0.13-0.22% of SICTT -ve cohort animals. TIRs that moved out of the disclosing herd within 6 months of the IRR were 12 times more likely to be bTB positive at the next test/slaughter compared to all animals in the national herd. The same increased risk did not apply to the SICTT -ve cohort animals that moved out of the same herds at the same time. Based on a range of measures, SIRs and TIRs are each at increased bTB risk into the future. Consequently, differential treatment of TIR animals would be justified.