

Q FEVER - Technical Update

Corridan K., Wall P., McGrath G. et al. Q fever in the Irish dairy herd. Ir Vet J (2026).



Background

- Q fever is caused by *Coxiella burnetii* and is a notifiable zoonotic disease in Ireland.
- Infection in cattle may be associated with:
 - Reduced fertility
 - Abortions
 - Reproductive inefficiency
- Cattle are recognised reservoirs for human infection, particularly for farmers, farm staff and vets.

Why this study was done?

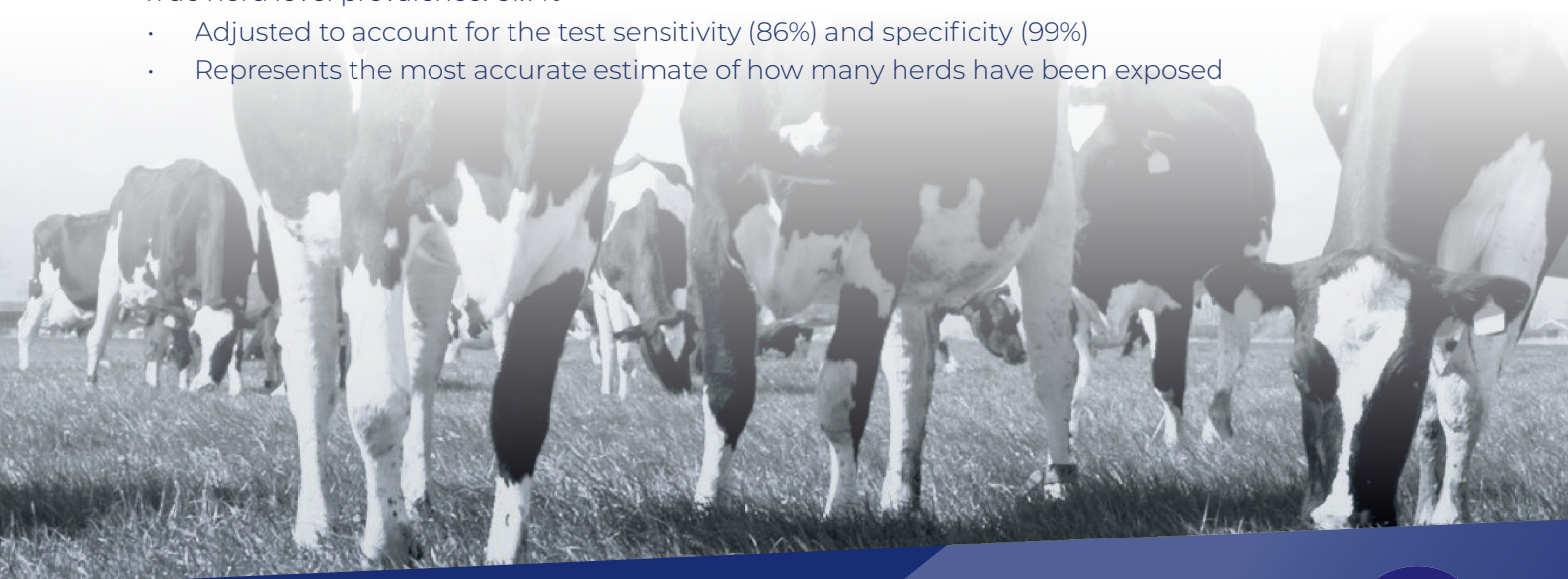
- Previous Irish prevalence data were limited and over 10 years old.
- The Irish dairy sector has changed substantially with larger herds, increased intensity and greater animal densities
- Updated data were needed to assess:
 - Current herd level exposure
 - Herd factors associated with Q fever positivity

How was the study carried out?

- Study population of 2,687 Irish dairy herds (~15% of the national dairy herd)
- Year of data collection: 2022
- Sample type: Bulk tank milk
- Diagnostic test: ID Screen Q Fever Indirect Multi species ELISA (detects antibodies to *Coxiella burnetii*)
- Vaccination status: No herds sampled were vaccinated against Q fever therefore, all antibody detection reflects prior herd-level natural exposure

Key findings

- Apparent prevalence: 53.5%
 - The proportion of herds that tested positive on ELISA
- True herd level prevalence: 61.7%
 - Adjusted to account for the test sensitivity (86%) and specificity (99%)
 - Represents the most accurate estimate of how many herds have been exposed



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Context of these findings

- Represents a three fold increase compared with earlier Irish estimates (~19.5%)
- Higher than reported EU cattle averages (~15%), noting that EU figures often include beef and dairy cattle and surveillance is largely passive in many countries
- Describes that Q fever exposure is common, widespread and under recognised

Herd level risk factors identified

- Exposure was more likely in larger herds
- Exposure was less likely in herds with:
 - A higher average Economic Breeding Index (EBI)
 - A higher proportion of first lactation (younger) animals
- Higher exposure in herds with an older age structure likely reflects cumulative lifetime exposure

Clinical interpretation

- Highlights the subclinical and under recognised nature of Q fever
- Herd level exposure may act as a background contributor to reproductive performance issues rather than a single identifiable disease outbreak

Zoonotic context

- The study specifically highlights occupational risk to farmers, vets and families
- Therefore, this reinforces Q fever as a One Health issue, not just a production disease
- Humans are infected mainly via inhalation of aerosolised material from birth fluids or contaminated dust

Summary

This study provides the strongest Irish evidence to date that Q fever exposure is widespread and under recognised in dairy herds, highlighting the value of bulk tank milk testing in understanding herd level risk.

Further information



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