

Evidence for sporadic *Coxiella burnetii* excretion in sheep milk, central Portugal

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Introduction:

Coxiella burnetii, the causative agent of Q fever, is a globally distributed zoonosis, with cattle, sheep, and goats considered the main reservoirs of the disease (Agger et al., 2013; Bento et al., 2023). Human transmission primarily occurs through inhaling infectious aerosols from milk, faeces, urine, and birth products from infected ruminants. This study used a 2-year longitudinal

approach to investigate *C. burnetii* excretion in bulk tank milk samples from sheep in central Portugal.

Materials and Methods:

Sampling was conducted during the years 2015 and 2016. Bulk tank milk ($n=156$) was subjected to molecular testing using a qPCR targeting the IS1111 transposase partial region of the *C. burnetii* genome (Frangoulidis et al., 2012).

Discussion and Conclusion:

From the total 156 samples only one tested positive for *C. burnetii* (1.28% [95%CI: 0.03-6.94]) from the initial year of sampling, 2015. Sequencing and phylogenetic analysis of the IS1111 transposase partial region confirmed the presence of *C. burnetii* DNA. The detection of *C. burnetii* in raw milk underscores the importance of further research to ascertain its potential role as a source of human infection. Enhanced animal health surveillance and preventive measures are warranted to mitigate the risk of this zoonotic disease.

References:

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