

**BAYESIAN COMPARISON OF CULTURE MEDIA FOR THE ISOLATION OF SHEEP AND CATTLE STRAINS OF *MYCOBACTERIUM AVIUM* SUBSP. *PARATUBERCULOSIS* FROM SHEEP AND GOATS, ADJUSTING FOR THE TRUE PREVALENCE OF INFECTION.**

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The recommendations regarding the most appropriate culture media for *Mycobacterium avium* subsp. *paratuberculosis* (MAP) isolation from samples greatly vary. In this study, we compared the isolation rates between Herrold's egg - yolk medium (HEYM) and Lowenstein-Jensen (LJ) medium for MAP isolation from Greek dairy sheep and goats. We estimated and compared species- (sheep or goats), strain- [sheep (S)- or cattle (C)-type] and sample-type (faeces or pooled-tissues) specific apparent prevalences (APs), adjusting for the true prevalences (TPs) of strain-specific infections, using Bayesian estimation procedures. Faecal and tissue samples were collected. The faecal samples were from 100 hundred, female, clinically healthy animals, >one year-old, from each of 4 endemically infected flocks. The tissue samples were collected from 3 slaughterhouses in the region around the investigated flocks. They were from 142 sheep and 72 goats with pathology suggesting paratuberculosis. We found no evidence of host-specificity of strain types between sheep and goats. HEYM recovered more C-type strains from faecal samples of sheep or goats than LJ. Also, HEYM better supported growth of C- than S-type strains from faecal samples of sheep or goats. In goats, the TPs of S-type strains in pooled-tissue and faecal samples were unequal and therefore the observed difference in the APs on HEYM was not ascribed to difference in the sensitivity of culture. HEYM was more sensitive to recover S-type strains from goat than sheep pooled-tissue samples. Lastly, in sheep, HEYM appeared more sensitive to recover C- than S-type strains from faecal samples. Overall, there are grounds to believe that much of the frequently reported variable sensitivity of media among strain types, sample types and species may stem from differences in the pathogenicity of MAP infection between sheep and goats and the lack of host specificity of strains.