

Abstract

Mycoplasma hyopneumoniae is the causative agent of mycoplasmal pneumonia in pigs, often referred to as “enzootic pneumonia” (EP). Gross EP-like lesions are regularly identified at slaughter. An IHC protocol was developed and optimised for identification of *M. hyopneumoniae* antigen in formalin fixed paraffin embedded tissue. As part of the development process automated and manual protocols were developed and a number of different HIER methods were compared. Optimum staining was achieved using microwave HIER in citrate buffer and an antibody dilution of 1/300. Samples collected from the abattoir with typical EP-like lesions were tested by IHC and the results compared with PCR. For these samples, the results of IHC and PCR were comparable. The optimised IHC protocol was used as part of an abattoir investigation into increases in EP-like lesion prevalence identified as part of the BPHS assessments. Lung samples were collected from the abattoir from case and control farms. IHC results were compared with PCR, histology and culture for *M. hyopneumoniae* and *M. hyorhinis*. Overall, *M. hyopneumoniae* was identified in fewer samples than expected and no differences were found between detection rates of *M. hyopneumoniae* from case and control farms. For these samples IHC and PCR results were not comparable, with IHC identifying *M. hyopneumoniae* in fewer samples than PCR. Linear regression models were used to identify associations between EP-like lesions and post trimming carcass weight. Increases in severity of EP-like lesions were associated with a reduction in post-trimming carcass weight. The presence of EP-like lesions was also associated with an increase in slaughter age. A protocol for eradication of *M. hyopneumoniae* from the UK was proposed and was assessed using a SWOT analysis. Strengths, Weaknesses, Opportunities, and Threats were identified and discussed. Regional eradication of *M. hyopneumoniae* may be achievable in specific areas of the UK but at the current time, a national programme is not feasible.