Interactions between diet and enteric bacterial infections are complex and multifactorial. In production situations, more than one pathogen or diarrhoea on the day of sampling. The 2 groups of pigs which were not experimentally infected did not display lesions typical of spirochaetosis nor were their faecal cultures positive for B. pilosicoli. The group fed diet RHV shed large numbers of haemolytic E. coli from 7-11 days after weaning. Some pigs fed diet R shed haemolytic E. coli at this time but the E. coli comprised a relatively smaller proportion of the total bacteria culturable from the faeces compared to that cultured from pigs fed RHV.

Discussion

The association between higher intestinal viscosity and increased numbers of intestinal haemolytic E. coli in pigs 1 week after weaning was confirmed in this study. The effect of CMC on proliferation of intestinal B. pilosicoli was less clear, although the results were suggestive of a increased duration of colonisation in pigs fed the high viscosity diet. It was difficult to determine whether it was the presence of a prior E. coli infection (associated with CMC) or the increased intestinal viscosity itself (or a combination of both) that increased the duration of B. pilosicoli shedding in pigs fed RHV. IS is a more chronic and variable disease than PWC and further studies are needed to elucidate associations between intestinal viscosity and spirochaetal proliferation. A similar trial conducted in older pigs, which are not susceptible to PWC, might clarify the influence of digesta viscosity on colonisation by B. pilosicoli.

Acknowledgements

This project was supported by a grant from the Australian Pig Research and Development Corporation.

References