Campylobacter in chicken flocks: The issues and views of the disease and its control

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Key message: The bacteria Campylobacter, is one of the biggest causes of food poisoning in the UK and arises from the consumption or handling of chicken or chicken portions. However, uncertainty within the industry that Campylobacter can be controlled by biosecurity measures may undermine attempts to bring all farmers up to the best standards in terms of compliance and biosecure procedures.

Main Findings

• This briefing highlights some of the farmer attitudes and other potential behavioural determinants of, and barriers to, Campylobacter control within the poultry sector. The aim is to investigate the extent to which specific biosecurity procedures might be successfully applied on-farm in order to reduce the level of bird and carcass contamination of the Campylobacter bacteria at the slaughterhouse.

• The bacteria, Campylobacter, is the biggest cause of food poisoning in the UK4 with research suggesting that between 35% and 80% of human Campylobacteriosis cases may be attributable to chicken sources5.

• Farm-level biosecurity practices are considered by many to play a significant role in managing Campylobacter contamination of raw meat products such as chicken6. Thus the farmer’s attitude and behaviour towards biosecure procedures will affect the level of bird contamination on arrival at the slaughterhouse for processing.

• Farmers recognise that the control of Campylobacter is essential to the industry and vital to safeguard the farmers’ own futures. This demonstrates a clear motivation for ensuring the implementation of best practices regarding biosecure procedures.

• Farmers had a wide range of questions about the disease and its effective control.

• Consistent messages about the disease, its control and impacts, would be beneficial for modifying the social norms found on farm, and thus combating apathy and forgetfulness for enforcing biosecure procedures.

• If Campylobacter infection in flocks is to be reduced beyond what is achieved currently, routine testing of flocks, combined with active management of hygiene barriers, is likely to be required. However, these procedures need to be proven to be effective in controlling the disease and then may require the use of cameras to allow compliance to be monitored accurately.

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1This research was a Defra funded project: Assessment of the efficacy of on-farm biosecurity measures for controlling Campylobacter - OZ0625

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3 Land Economy, Environment and Society Research Group, SRUC Research.


6 Sparks, N., Hardy, M., Baker, L. & Mline, C., 2011. Assessing the effectiveness of biosecurity training. Final Report to FSA. (S14055)
Introduction
Since 2005, *Campylobacter* has been the most commonly reported gastro-intestinal bacterial pathogen in the European Union\(^7\), and the biggest cause of food poisoning in the UK. With research suggesting that between 35% and 80% of human *Campylobacteriosis* cases may be attributable to chicken sources there is a need for the poultry industry to reduce the prevalence of *Campylobacter*-contaminated poultry meat. Biosecurity is considered by many to be an important tool in the control of *Campylobacter*.

Many biosecure procedures rely on the farmers and animal handlers carrying out the procedures to do so correctly and consistently. Therefore the attitudes and opinions of farmers are crucial in ensuring compliance and for designing policies that encourage or enforce compliance.

Methods and Results
A questionnaire was designed in collaboration with industry project partners, containing a series of open-ended questions was designed to explore attitudes towards disease and control measures. Additionally quantitative information was collected for ten biosecurity behaviours which were rated against a five point scale according to four criteria, namely expense, convenience, the extent to which they are viewed as worthwhile, and willingness to implement. A total of 214 expressions of opinion were collected through the interview survey with all interviewees being male and farm owners.

The results, as shown in Figure 1 indicated that the farmers believe that the control of the disease is essential and a priority for the industry and is reliant on good biosecurity practices. Additionally they stated the importance of controlling the disease in order to help safeguard their own futures and the future of the industry due to the wider benefits for addressing other disease risks. However, other results indicated that there was a level of uncertainty by farmers about the disease, whether it can be controlled by biosecure procedures and where to obtain accurate information and guidance.

Generally interviewees expressed the perceived problems of disease control to be connected to the quality of chicks, general issues of hygiene, including poor cleaning out of bird areas, the need for vigilance, and a lack of awareness of what needs to be done to prevent infection.

Implications for Policy and Industry
- Farmer recognition that good biosecurity practices help to safeguard their futures should be seen as a likely positive motivator for action when designing improved biosecurity practices or policies.
- Improved communication and guidance systems about the disease, its control and impacts is required to ensure farmers understand the importance of disease control and what it entails.
- General apathy, forgetfulness and ignoring biosecurity rules needs to be addressed, suitably placed cameras to monitor compliance accurately could be one tool which could be used to monitor this.
- Due to the uncertainty of the effective control of *Campylobacter* by biosecure procedures, further evidence is required to demonstrate unequivocally what mechanisms are effective.

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