On-farm campylobacter testing involving independent broiler farms

Maes o ddiddordeb ymchwil: Foodborne pathogens
Hyd yr astudiaeth: 2014-09-01
Cod prosiect: FS101123
Cynhaliwyd gan: National Farmers' Union
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Background

It was decided to undertake this project as part of the FSA's overarching Campylobacter programme. The independent broiler chicken farming sector had previously not been involved in such a testing provision therefore it was seen as an excellent opportunity to allow farmers within this sector to monitor their flocks for Campylobacter. The project also allowed farmers the chance to make some improvements (for example implement biosecurity) if they received positive test results. An added incentive was that the sampling kits were free and all results obtained from the scheme have been reported anonymously.

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Research Approach

A strategy was in place which helped to advertise this campaign and target the relevant broiler farms across the UK. Independent farmers were asked to register online and complete a short questionnaire, which included farm details and the number of sheds. Once the farm was accepted, a relevant number of sampling kits were then issued directly to the farmer together with instructions on how to collect the sample (similar to taking a sample for Salmonella). The farmer could then post this sample off to the laboratory, with the result received by text message within 72 hours. The samples were processed using the technique real-time polymerase chain reaction (RT-PCR). Participating farmers also had the opportunity to compare their results to the national average by logging on to the web-based platform. The data collected was used to establish if there was a pattern or link between negative test results and what is happening on-farm (for example whether there may be a link with litter quality, the use of antibiotics or a known stress event during the growing of the birds). The project results and conclusions of the data analysis are now available to the industry on an anonymous basis.

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Results

In all, 3480 usable litter test results, which were acquired from 220 UK independent broiler farms, were included within the final multivariate analyses. This was a slightly reduced number from the final numbers at the specified end date of the project given that some farms did not provide the required information despite being prompted. As per similar studies, when looking specifically at the birds, it was observed that increased bird age had a positive correlation with Campylobacter colonisation. There was a potential new finding of female birds having a protective factor. This was possibly due to the fact that male birds are relied upon to get heavier, resulting in more female birds being removed at an early stage.

Other factors were also observed. The analysis appeared to show that broiler houses constructed with wooden frames provided a protective factor. Upon further investigations, it has been established that natural antimicrobial resins in wood could potentially play a role in this. The study highlighted that there is merit in further investigation in the use of prebiotics as a potential factor for colonisation.

''Impressive campaign raising awareness;" "Good scheme;" "Project was well worth participating in;" "I thought the project worked well'' were some of the comments that we received from participating broiler farmers at the end of the ACT-NFU project.

Research report

England, Northern Ireland and Wales

PDF
Gweld A new on-farm Campylobacter testing provision covering the independent broiler farming sector across the United Kingdom as PDF(Open in a new window) (1.94 MB)