Risk factors for *Campylobacter* infection in Danish broiler production

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Data from the Quality Assurance system in Danish Broiler Production (KIK system) were analysed to identify within farm biosecurity and management related risk factors for *Campylobacter* infection in Danish broiler flocks. In the study, data from 2835 flocks originating from 187 farms reared from December 2009 to November 2010 were included. The PCR test results of fecal samples collected on socks revealed that 14% of the Danish broiler flocks were positive for *Campylobacter* during the study period. Fifty five percent of the flocks were positive during the summer, and related to areas where clustering of infected farms was identified in previous conducted studies. The median number of people working in, or with an access for entering, broiler houses was 2 (from 1 to 7). For 311 flocks (12%), the previous flock in the house had a positive status. Median slaughter age of the birds was 35 days (from 31 to 61 days). A multivariable logistic regression model with a random effect of farm was performed. The analysis revealed a higher risk for positive infection status during summer time: OR=13.30, (95% CI: 6.56-26.90) and a higher risk if more than one person had access to the house: OR=2.16, (95% CI: 1.25-3.72). Furthermore, a higher risk was seen if the test result for the previous flock from the same house was positive: OR=1.67, (95% CI: 1.10-2.52) and if the average slaughter age of the birds was more than 35 days: OR=1.50, (95% CI: 1.07-2.09). The continuous variable ‘establishment year of the house’ was found significantly associated with the infection status of the flock with a P=0.02 and an OR=0.98, (95% CI: 0.97-0.99).