

Título: A LONGITUDINAL STUDY ON *Salmonella* spp. IN BROILER CHICKENS

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Resumo:

Industrial chicken production in Brazil has grown significantly in recent decades. Today, the country holds the third position in the global ranking of chicken production as it is the biggest chicken exporter. The maintenance of sanitary quality of flocks is a permanent challenge throughout the different production stages. In this context, nontyphoidal *Salmonella* serovars, though they do not generally cause disease in broiler chickens, are among the main food-borne diseases pathogens. The monitoring and the control of this bacterium in broiler chickens are essential to reduce occurrence of disease in humans and minimize losses due to trade sanctions adopted in these scenarios. In this sense, the present study investigated the occurrence of *Salmonella* in six consecutively raised broiler batches in nine (named A to I) broiler houses in southern Brazil. For each batch, eight samples of the litter collected in the lodge (4) and in the transport (4) of broilers as well as five feed samples were evaluated, representing the different broiler growth phases. The samples were submitted to conventional *Salmonella* microbiological isolation. Colonies were confirmed using standard biochemical procedures and slide agglutination assay. Motile *Samonella* spp. was detected in 120/430 (27.78%) of samples of litter, in five broiler houses (A, F, G, H, and I). Contamination was observed either in the first or in the second batch, and was detected in at least four batches in a given broiler house, indicating the presence of the pathogen across batches. Of the 270 feed samples analyzed, two (0.74%) were positive for *Salmonella* spp. in two broiler houses (G and I), suggesting that feed may be a vehicle to spread the bacteria between broilers flocks. The importance of this finding lies in the fact that, in the commercial broiler production system, feed manufacturers supply feed to several broiler farms, pointing to the high potential of spreading pathogens. In sum, despite the efforts to control *Salmonella* in broiler chickens, the problem remains a challenge. The identification of critical control points and the improvement of practices and processes adopted in the different stages of production may help minimize the prevalence of these bacteria in broiler houses.

Palavras-chaves: broiler chicken, broiler litter, feed, salmonellosis.

Agência Fomento: Embrapa