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Escherichia coli as contamination of sanitary conveyor in poultry processing slaughter house before and after sanitization with water spray in Brazil

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Brazilian poultry industry was an important producer of meat in the world with 12.30 million tonnes of meat in 2013. Due to this high production, there is concern about the transmission of pathogens to human health and to be under the Brazilian legal patterns. However, proper hygiene in the conveyors could inhibit this transmission.This study aimed to evaluate the pre-operational and operational hygiene in the microbiological control, through the quantification of Enterobacteria, in addition to the PCR detection of shigatoxigenic and enteropathogenic *Escherichia coli* present in sanitary conveyor in slaughter houses. In order to quantify Enterobacteriaceae, 311 samples were collected using sterile swabs, in four different periods, before and after the operational and pre-operational hygiene. The swabs were placed in tubes containing 10 mL of 0.1% peptone, plated by the pour plate method in MacConkey agar and incubated at 37°C for 24 h. Counts were made by the colony-forming units per mL (CFU/mL) method. All samples were submitted to DNA extraction by boiling method and subsequently subjected to multiplex PCR with specific primers. *E. coli* was detected by an amplification of specific band for *eae, stx1* and *stx2* genes. The average counts, expressed in log, for Enterobacteriaceae was 3.31. Bacterial identification by PCR resulted in 23 samples were positive for enteropathogenic *Escherichia coli*, which amplify only the *eae* gene. These results showed that slaughter house hygiene performed with only water spray is not sufficient to contain contamination. Thus, under this hygiene condition there is a high chance of transmission pathogens to humans.

Biography

Mariana Froner Casagrande graduated in Animal Science and has completed her Master's degree in 2012 from São Paulo State University, Campus of Jaboticabal, SP. Currently she is pursuing PhD in the same University. She has published four papers in reputed journals.

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