

Shigatoxigenic and Enteropathogenic *Escherichia coli* from commercial poultry farm in Brazil.

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Abstract: Nowadays, the Brazilian poultry industry is the first exporter in the world with 3.92 million tonnes of chicken meat and the third one in production with 12.30 million tonnes, only behind USA and China. Among this, Brazilian production of chicken meat, 95% was destined to the production as raw meat, and only 5% was processed in poultry industries. Even with high technology in production sanitary sector is still a challenge. *Escherichia coli* infection is considered a major problem in this industry, and to prevent this infection in the production chain, it must be made a bacteriological monitoring with the elimination of infected poultry in farms and industries. This study aimed to detect, by PCR multiplex, the presence of shigatoxigenic *E. coli* (STEC) and enteropathogenic *E. coli* (EPEC) in commercial poultry farms. For this research, 164 samples were collected from the poultry cloaca using sterile swabs, which were subjected to bacterial culture in 5 mL of Brain Heart Infusion (BHI) broth and incubated at 37°C for 24 hours. After this growth, all samples were submitted to DNA extraction by boiling method and subsequently submitted to multiplex PCR with specific primers. *E. coli* was detected by the amplification of a specific band for *eae*, *stx1* and *stx2* genes. The genes *stx1* and *stx2* were to identify principally STEC, and the gene *eae* were for the EPEC. Bacterial identification by PCR resulted in 107 positive samples for EPEC, which amplify only the *eae* gene. The EPEC positivity was 65.24%. Thus, these results confirm that this bacterium is commonly found in poultry farms, showing that is important to do a proper management in farms and industries to prevent the spread of *E. coli* and the contamination of final products that will be consumed by humans, and may cause damage to public health.

Key words: Pathogens, poultry, molecular biology.

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