

TITLE: DETECTION OF ENTEROPHATOGENIC (EPEC), SHIGATOXIGENIC (STEC) *Escherichia coli* AND *Clostridium perfringens* IN BROILER CHICKENS AND BACKYARDS CHICKENS

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The poultry production in Brazil has advanced considerably, with the use of industrial chicken produced large changes in dietary habits of the population. Because of the growing consumer market of more natural and healthy products, interest in creating backyard chickens has increased significantly in recent years. However, with the rapid growth of the poultry industry, the rate of infection avian has increased significantly. The same framework affects the backyard chickens, one that they are not included in biosecurity system applied to commercial flocks. Thus, this study aimed to verify the presence of pathogens enteropathogenic *Escherichia coli* (EPEC), shigatoxigenic *Escherichia coli* (STEC) and *Clostridium perfringens* in poultry chickens and backyards chickens by PCR. In addition, the pathogen isolates were submitted to an antimicrobial susceptibility testing. For this, it were collected 100 cloacal content swabs, 50 from poultry chickens and 50 from backyards chickens. All swabs were placed in tubes containing 5 mL of Brain Heart Infusion (BHI) broth and incubated at 37°C for 24 hours. After the bacterial growth, the DNA of all samples were extracted by boiling method and subsequently submitted to PCR reactions. The amplification of *eae* gene was to identify *E. coli* EPEC, while *stx1* and *stx2* genes were related to *E. coli* STEC, and *C. perfringens* was identified by the *cpa* gene presence. The antimicrobial susceptibility testing were performed in a bacterial isolates using a commercial kits from gram negative and gram positive. It was observed the presence of EPEC and absence of STEC in both groups of birds, being 17 samples (34%) positive for EPEC from the broilers and 24 samples (48%) from the backyards. There was also the detection of *Clostridium perfringens* serotype A in only 15 samples (30%) of backyards by Multiplex PCR. When subjected to the sensitivity to antimicrobial tests, isolates from broiler chickens showed high resistance to antibiotics of quinolones and β -lactam groups, while isolates of backyards chickens showed high resistance to β -lactam groups, sulfonamides and aminoglycosides. The results indicate that the high pathogenic potential of these bacteria and the imminent threat to public health, mainly due to the risks of contamination and bacterial resistance along the production chain of broiler chickens and backyards chickens.

Keywords: poultry farming, pathogens, biochemical tests, antimicrobial.

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