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**Antimicrobial resistance of extended spectrum beta-lactamase producing *Escherichia coli* isolated from pheasants in Vietnam**

Bui Thi Le Minh\*, Nguyen Quoc Dat, Nguyen Khanh Thuan, Nguyen Vinh Trung

\*lead presenter

btlminh@ctu.edu.vn, CanTho University, Viet Nam

Faculty of Veterinary Medicine, College of Agriculture, Can Tho University, Vietnam

**Abstract:**

**Background/Objective:** This study was carried out to determine the prevalence of extended spectrum beta-lactamase producing Escherichia coli (ESBL-producing *E. coli*) in pheasants and their antibiotic resistance profile.

**Methods:** A total of 100 fecal samples of pheasants were randomly collected from cloaca of 100 pheasants in the Mekong Delta of Vietnam. The phenotypic identification of ESBL was confirmed by combination disc methods. In vitro, susceptibility to ESBL-producing *E. coli* isolates than 19 antimicrobial agents was performed by Kirby-Bauer disk diffusion method. The prevalence of TEM, SHV and CTX-M genes in ESBL-producing *E. coli* was assessed by Polymerase Chain Reaction method.

**Results:** The results showed that the prevelence ofESBL-producing *E. coli* in pheasants was 18%. The ESBL-producing *E. coli* isolates were highly susceptible to amikacin and fosfomycin (100%), doxycycline and amoxicillin/acid clavulanic (91.67%), colistin, kanamycin and norfloxacin (83.33%), cefuroxime and ofloxacin (75%), cefaclor (66.67%). However, they were highly resistant to penicillin (100%), ampicillin, amoxicillin and trimethoprim/sulfamethoxazole (91.67%), tetracycline (66.67%), and resistant to 3-10 antimicrobial agents. The prevalence of TEM and CTX-M genes was determined to be 100% and 33.33%, respectively. SHV gene was not defected in ESBL-producing *E. coli* isolated from pheasants.

**Conclusion:** Due to the increase of *E. coli* with multiple ESBL genes, continuous surveillance in order to use appropriate antibiotics and the control of infections in chickens is necessary.

**Keywords:** Antibiotic resistance, ESBL-producing *E. coli*, pheasants