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ANTIMICROBIAL RESISTANCE OF COMMENSAL ESCHERICHIA COLI ISOLATED FROM CHICKEN IN CENTRAL REGION OF PENINSULAR MALAYSIA

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ABSTRACT

In animal production, antibiotics play an important role in order to prevent and treat animal diseases and improve animals' growth performance. The development of antimicrobial resistance (AMR) in zoonotic bacteria in animals and foods shall compromise the effective treatment of infection diseases in humans and animals. Escherichia coli (E. coli) is a member of family Enterobacteriaceae and commonly known as intestinal microflora in humans, warm-blooded animals and reptiles. With its ability to survive in many different ecological habitats and adapt to constantly changing environments, commensal E. coli are regarded as an indicator of antimicrobial load in their hosts. This study was carried out to determine phenotypic characteristics of antibiotic resistance of commensal E. coli isolated from pooled cloacal swabs of broiler and layer chicken in central region of Peninsular Malaysia. In 2018, a total of 250 E. coli isolates from 86 farms were tested for antimicrobial susceptibility using disk diffusion method for nine different types of antibiotics. The data entry and analysis were done using WHONET software. A total of 98.4% (186/189) of E. coli isolates from broiler and 37.7% (23/61) of E. coli isolates from layer were multi-drug resistant (MDR). High percentage of resistance was found against tetracycline (96.3%), ampicillin (93.1%) and chloramphenicol (92.1%) in broiler. Meanwhile, tetracycline (70.5%) was found to be the highest percentage of resistance in layer. All E. coli isolates in layer were susceptible to ceftiofur, cefotaxime and gentamicin.

Keywords: Antimicrobial resistance, commensal Eschericia coli, chicken, broiler, layer, WHONET 5.6