# **Titre d’article**: Detection of multidrug resistant Escherichia coli in the ovaries of healthy broiler breeders with emphasis on extended-spectrum β-lactamases producers

**Abstract :**

In the last few years, antimicrobial resistant (AMR) Escherichia coli have been detected in newborn chickens suggesting their vertical transmission from breeding birds to their offspring. However, little is known about the presence of AMR E. coli in the reproductive organs of broiler breeders. The aim of this study was to investigate the presence of E. coli in the ovaries of healthy broiler breeders and to study their antimicrobial resistance. Samples from broiler breeders (n = 80) collected from 80 different broiler breeder flocks were included in this study. Antibiotic susceptibility testing was performed using disk diffusion method according to Clinical and Laboratory Standards Institute guidelines. Minimal inhibitory concentrations (MICs) of five antimicrobial agents were determined by Etest. PCR and sequencing were used to detect the blaESBL genes. E. coli were detected in the ovaries of thirty seven out of 80 (46.25%) sampled flocks. High levels of resistance to various first-line antimicrobial agents were recorded in E. coli isolates. This study showed that 89.18% of E. coli isolates were multidrug resistant (MDR). Furthermore, MDR extended-spectrum β-lactamases (ESBL)-producing E. coli were detected in the ovaries of four different broiler breeder flocks. Molecular characterization revealed that three isolates harboured blaCTX-M-1 gene and one isolate expressed blaSHV-12 gene. In addition, one blaCTX-M-1 -producing E. coli co-harboured the blaTEM-1 gene. These findings would contribute to a better epidemiological understanding of MDR E. coli for improve existing preventive strategies in order to reduce the dissemination of antimicrobial resistance in the broiler production system.