

Survey of Selected Pathogenic Bacteria in Chickens from Rural Households in Limpopo Province

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Abstract : This study was designed to determine the distribution of pathogenic bacteria in household raised chickens and study their virulence and antibiotic profiles. For this purpose, 40 chickens were purchased from families in the Capricorn district and sacrificed for sampling. Tissues were cultured on different bacteriological media followed by biotyping using Matrix-assisted Laser Desorption Ionization-time of Flight (MALDI-TOF). Disk diffusion test was performed to determine the antibiotic susceptibility profiles of these bacteria. Out of a total of 160 tissue samples evaluated, *E. coli* and *Salmonella* were detected in these tissues. Furthermore, determination of the pathogenic *E. coli* and *Salmonella* strains at species level using primer sets that target selected genes of interest in the polymerase chain reaction (PCR) assay was employed. The *invA* gene, a confirmatory gene of *Salmonella* was detected in all the *Salmonella* isolates. The study revealed that there is a high distribution of *Salmonella* and pathogenic *E. coli* in these chickens. Therefore, further studies on identification at the species level are highly recommended to provide management and sanitation practices to lower this prevalence. The antimicrobial susceptibility data generated from this study can be a valuable reference to veterinarians for treating bacterial diseases in poultry.

Keywords : antimicrobial, *Escherichia coli*, pathogens, *Salmonella*

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