ANTIBIOTIC SENSITIVITY PROFILE OF *Salmonella* spp. ISOLATES IN CARCASSES OF CHICKEN (*Gallus gallus domesticus*) FROM SELECTED WET MARKETS IN CAVITE

THESIS

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ABSTRACT

FOJAS, VERNA S., Cavite State University, Indang, Cavite, April 2008. Antibiotic Sensitivity Profile of *Salmonella* spp. Isolated in Carcasses of Chicken (*Gallus gallus domesticus*, Linn) from Selected Wet Markets in Cavite. Doctor of Veterinary Medicine, Cavite State University, Indang, Cavite. Adviser: Heidee E Arapol, DVM.

The study was conducted to determine the antibiotic sensitivity profile of *Salmonella* spp. isolates from the carcasses of 100 dressed chickens from selected wet markets in Cavite. One hundred and twenty-five colonies from 100 chicken carcasses were isolated from Xylose Lysine Desoxycholate or XLD (Difco®) agar. Morphological characterization showed that 118 of 125 isolates were gram negative, rod shaped organisms. Further characterization was done to the isolates using biochemical tests and revealed the typical *Salmonella* spp., reactions which are oxidase negative, alkaline slant and acid butt with hydrogen sulfide and gas formation on Triple Sugar Iron or TSI, produces hydrogen sulfide, negative result for indole and motile on Sulfide Indole Motility or SIM, Methyl Red test positive and Voges-Proskauer test negative, Citrate and Nitrate Utilization positive and yield a negative result on Urease and Gelatinase test. The isolates also fermented glucose and maltose but not fermentative in sucrose. Serological characterization was done on the isolates using Somatic O and Vi and Vi antisera and seven isolates were identified as *Salmonella* spp.

All seven isolates were found to be susceptible to fosfomycin, ampicillin, nitrofurantoin, norfloxacin, trimethoprim-sulphamethoxazole and ciprofloxacin and were resistant to lincomycin and gentamicin. Intermediate results were obtained to doxycycline and tetracycline.

The prevalence rate of *Salmonella* spp. in the carcasses of chicken from selected wet markets in Cavite was found to be 7%. Hence, proper handling, processing and storage of chicken carcasses must be practiced to help ensure the safety of the carcass as well ensure that the public do not get infected by the organism. In addition, the discriminate use of antimicrobials in food-producing animals must be monitored to guarantee the continued safety and efficacy of veterinary antimicrobials.

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INTRODUCTION

Salmonella infections in commercial poultry have long been an industry concern. More than 2 500 serotypes of *Salmonellae* bacteria (family *Enterobacteriacea*) have been identified, but only two serotypes are true poultry pathogens (*S.* Gallinarum and *S.* Pullorum). *Salmonella* infections with other serotypes (*S.* Enteritidis, *S.* Typhimurium, *S.* Hadar, etc.) seldom cause disease in poultry, but are of major concern to public health. *Salmonellae* have a worldwide distribution and generally the goal is to rear poultry *Salmonella* free. According to Breytenbach (2004) paratyphoid *Salmonellae* strains have a very wide host range resulting in a large and continuous source of infection to poultry. This requires a much broader approach to control.

Paratyphoid *Salmonellae* can infect a wide variety of hosts, including humans. Poultry are usually asymptomatic carriers of paratyphoid *Salmonellae.* These bacteria can however cause symptoms of food poisoning in humans. Contaminated poultry meat and eggs are among the most frequently implicated sources of human salmonellosis