

TITLE: ANTIMICROBIAL RESISTANCE PROFILE OF *ESCHERICHIA COLI* ISOLATED IN MEAT FLOUR SAMPLES

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ABSTRACT:

In industrial poultry the use of meat flours implemented in animal feed is a constant practice, since food represents the major part of the cost of production. Among the alternative foods most used in poultry production, flours of animal origin, have configured an important source of protein and energy, however, when contaminated becomes a route of transmission of various pathogens. Being considered one of the main challenges of the industrial poultry industry, Avian Pathogenic *Escherichia coli* (APEC) is responsible for causing colibacillosis, a disease responsible for great damages in this sector. The objective of this study was to evaluate the resistance profile of *E. coli* isolates against the used antimicrobials of industrial poultry. Were analyzed a total of 40 isolates of *E.coli* from meat flours produced and marketed in the states of Bahia (13), Paraíba (20) and Pernambuco (7). All isolates belong to the database of the Laboratory of Animal Diagnosis - LADA, located in the city of Recife, in the state of Pernambuco. The resistance profile was determined using the disk diffusion test according to the Clinical and Laboratory Standards Institute (CLSI). The antimicrobials tested were amoxicillin (30µg), nalidixic acid (30µg), ceftiofur (30µg), ciprofloxacin (5µg), doxycycline (30µg), enrofloxacin (5µg), florfenicol (30µg), fosfomycin (200µg), gentamicin (10µg), norfloxacin (10µg) and oxacillin (1µg). All isolates presented resistance to oxacillin (100.0%), followed by doxycycline (45.0%), nalidixic acid (45.0%), amoxicillin (32.5%), enrofloxacin (27.5%), norfloxacin (17.5%), florfenicol (17.5%), ceftiofur (15.0%), ciprofloxacin (15.0%), fosfomycin (15.0%) and gentamicin (2.5%). Regarding the multiresistance profile, 27.5% (11/40) of the strains were resistant to a minimum of three and a maximum of seven antimicrobials, 16 isolates classified as MDR (isolate resistant to at least one agent in three antimicrobial classes) and four as XDR (isolated that is not susceptible to at least one agent in all classes). In this study, a variation of the Multiple Antimicrobial Resistance Index (IRMA) was observed between 0.22 and 0.77. It is concluded that meat meal is contaminated by multiresistant *E.coli*. In this sense, the importance of sanitary control of the inputs used in animal feed is emphasized, as well as the prudent use of antimicrobials in animal production, minimizing not only economic losses, but also the risks to human, animal and environmental health.

Key words: antimicrobial, enterobacteria, multiresistance, poultry

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