

## **OBSERVATIONS ON SENSITIVITY AND AMR OF *E.coli* IN PIGS AND HUMANS**

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### Abstract

Antimicrobial resistance of pathogenic *E. coli* impacts the swine industry due to the limited treatment options and growing public health concerns caused by potential transfer of antimicrobial resistance genes into the food chain. The study was carried out throughout the whole year; the samples were collected from the small intestine following necropsies performed in young pigs. From a laboratory database, 78 samples were positive for *E. coli* and were sampled and processed in order to describe the AMR following a classical microbiological exam. Each sample was cultured on selective media (Mac Conkey Agar) and antibiograms were performed using MicroScan Walk Away System. The antibiogram examinations were performed for 20 antibiotics and the results were presented in the form of the following categories: resistant, intermediate, susceptible. In 4 of the 20 antibiotics tested, the bacterial agent showed a sensitivity of over 85% and in 6 of the 20 antibiotics, it showed resistance of over 85%. On average,  $47.8 \pm 37\%$  of *E. coli* showed sensitivity to the 20 antibiotics tested and  $48.5 \pm 38\%$  resistance;  $3.2 \pm 4\%$  were classified as “intermediate”. Similarities were noted in terms of sensitivity and resistance between the antibiograms from animal *E.coli* versus human *E.coli*. The same sensitivity was observed in 5 of the 20 antibiotics, and in 3 of the 20 antibiotics we noticed common resistance, but a future molecular biology analysis will be performed in order to identify the genes associated with AMR.

**Key words:** *antibiograms, E. coli, pig industry, AMR*

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