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GENETICS AND BIOFILM ANALYSIS ON STRAINS OF E.COLI ISOLATED FROM ANIMALS WITH DIARRHOEIC PROBLEMS.

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Background

- *Escherichia coli* (*E. coli*) is a bacterium that commonly lives in the intestines of people and animals. There are four major categories of diarrhoegenic *E. coli*,namely: enterotoxigenic *E. coli* (ETEC), enteroinvasive *E. coli* (EIEC),enteropathogenic *E. coli* (EPEC) andenterohemorrhagic *E. coli* (EHEC). These categories of *E. coli* differ in their epidemiology and pathogenesis and their O: H serotypes and for the presence or absence of several genes responsable for their virulance.

Objectives

- The objective of the study was the analysis of virulent genes and biofilm production in *E.coli* strains isolated from animals with diarrhoeic problems.

Methods

The strains were isolated from stool samples of animals affected by diarrhoea. Genetic analysis were performed by multiplex PCRs . Biofilm assays were performed by safranin method with O.D. readings at 492 nm on 96 wells plate .

Conclusions

The isolates were all coming from symptomatic animals from farms in which repeated episodes of diarrhoea are present. All isolates were negative for the *aggR* gene (Aggregative adherence fimbria), the *pet* gene (Plasmid-encoded toxin), *aap* (dispersin) and other genes. 10 out of 35 were positive for irp2 (yersinia bactin biosinthesis gene) and 18 out of 35 strains carried the *astA* gene which encodes for EAST1 (Entero Aggregative heat-StableToxin1). This protein is thought to play a role in EAEC pathogenicity even if not all EAEC strains harbour the *astA* gene. The analysis for biofilm formations on the first 22 isolates, showed low capability in biofilm formation . Only 8/22 showed values above 120 O.D., but further analysis will be performed with different stains.