Title: MOLECULAR TOOLS FOR USE IN THE DETECTION OF ESCHERICHIA COLI IN TAMBATINGAS HYBRID, SOLD FISH SPECIES IN BAIXADA Cuiabá, Mato Grosso, BRAZIL.

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Abstract:

The fishing industry in Brazil is one of the fastest growing and profitable sectors, enabling more and more the consumption of this product. Fish is a healthy food, but highly susceptible to deterioration due to their chemical composition and pH close to neutrality, favoring microbial growth. Molecular techniques make it possible to obtain reliable and rapid results for detecting pathogens with PCR identification. The objective of this study was to analyze the presence of Escherichia coli of “tambatinga” hybrid marketed around Cuiabá, Mato Grosso, Brazil, using molecular techniques for its detection. Samples were purchased in markets, fish markets and fairs in Cuiaba, Mato Grosso, Brazil. About 25g of tissue from each cold fish was collected and placed in sterile plastic bags, cool boxes with ice and sent to the Animal Genetics Laboratory from the Federal University of Mato Grosso, Brazil. The triplicate samples were taken and transferred to flasks with 225 ml of sterile 0.1% peptone water, homogenized and made serial dilutions to 10-3. It was placed in 0.1 ml aliquots (100 uL) of each dilution in petri dishes containing agar plates Mac Conkey. These were sealed and taken to the stove at 35 ° C for 24 hours. Then, there was the enrichment of colonies on BHI (brain heart infusion broth), in an oven at 35 ° C for 18 hours. For DNA extraction was used extraction kit RTP® Bacteria DNA Mini Kit (Molecular STRATEC) following the manufacturer's instructions. The polymerase chain reaction (PCR) was performed using primer species specific (F: 5' -GTT TCA GCA GAA GCT GTC GG- 3 ' R: 5'-AGC GTT GGA GAT GTC AAC CT-3 ') - 171pb to amplify gene sequences *gapA*. Of the 9 samples analyzed, seven were infected by E. coli, indicating that there character sanitary toilet failure, which may be classified as fish product consumption inadequate sanitary conditions. The occurrence of this bacterium in fish sold is a public health risk because they can cause infection and serve as a route of transmission to other foods and surfaces. It is necessary to guide producers and traders about the existence of fecal contamination, since this contamination can occur during storage, handling, as well as water from the farm ponds.

Keywords: fish, sanitary conditions, E. coli

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