

**TITLE:** EVALUATION OF MICROBIOLOGICAL INDICATORS OF QUALITY IN FISH AND WATER OF AQUACULTURES OF MACAPÁ MUNICIPALITY, STATE OF AMAPÁ

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**ABSTRACT:**

The Amazon is an ecosystem that stands out for its water composition, sheltering about 20% of all fresh water in five continents. Although water is essential to the life, it is also one of the most important vehicles in the spread of human infections caused by pathogenic microorganisms. In this context, fishing and aquaculture have stood out as one of the most important economic activities in the region. However, one of the problems that most affect fish production is its sanity and water quality. The aims of this study were surveillance by monitoring its microbiological quality of water and, isolate and characterize phenotypically the presence of microbiological quality indicators *Staphylococcus aureus*, *Salmonella* spp. and *Escherichia coli* in aquaculture fish from the municipality of Macapá, Amapá, and its relevance in Public Health. Seventeen aquacultures were evaluated through the collection of three water samples from the breeding tanks was used the Colilert® technique and, three fishes from each farm, which included 51 fish samples and 51 water samples. The analyzes were carried out at the Laboratory of Microbiology of Water and Food of the Central Laboratory of Public Health of Amapá (LACEN-AP) and the Special Laboratory of Applied Microbiology (LEMA) of the Federal University of Amapá (UNIFAP). The samples were identified through growth in screening media, followed by biochemical tests. The results of the laboratory tests revealed that *E. coli* were isolated in 23.5% of the fish samples, but the other species were not found. All water samples detected the presence of *E. coli* by the biochemical tests, but within the limits of tolerance foreseen in the current legislation. Even in fish farms whose presence of *E. coli* was registered, the fish produced is within the standards of human consumption, according to Normative Order N°. 12/2001 - ANVISA. From another perspective, the presence of *E. coli* in the samples indicates the presence of recent fecal contamination, which could reveal an inadequate management of the fish of these cultures, demonstrating the real need to have a continuous monitoring of these indicators of contamination, seeking effectiveness in the quality of food consumed to achieve adequate nutrition, thus reducing the risks of diseases transmitted by water and food, minimizing the risks to Public Health.

**Key-words:** Health, Fish farming, Quality standard.

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