MICROBIOLOGICAL EVALUATION OF PIRARUCU (ARAPAIMA GIGAS) SOLD IN LOWER AMAZONAS, PARÁ, REVEALS POOR HYGIENIC-SANITARY QUALITY.

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RESUMO

Microbiological quality control of foods of animal origin is a global concern and can guarantee food safety and public health. Pathogenic microorganisms in fish represent a significant risk and may result in severe/fatal illnesses. This study aimed to evaluate the microbiological quality of pirarucu (*Arapaima gigas*) sold at fairs in the municipality of Monte Alegre-Pará. The study was conducted in the city's three leading fairs, where 5 portions of pirarucu were sampled. Microbiological analyses were carried out following SDA Normative Instruction nº 62 of 08/26/2003. To evaluate the presence of *Salmonella* spp. in fish, selective enrichment was carried out in cystine selenite broth (35°C; 24h) and Rappaport Vassiliadis broth at (45°C; 24h), isolation was carried out on phenol red bright green agar lactose sucrose and Salmonella-Shigella agar, both at 35ºC for 24h. Bergey's key identified typical colonies. Baird-Parker agar with egg yolk and potassium tellurite (35ºC; 48h) was used to quantify coagulase-positive *Staphylococcus aureus* in the samples. Typical colonies with a transparent halo were counted and subjected to catalase and coagulase tests and identified using the Bergey key. Total and thermotolerant coliforms were measured using the most probable number (MPN) statistical method using lactose lauryl sulfate, bile brilliant green 2%, and EC broths. According to RDC nº 724 of 07/01/2022, *Salmonella* spp. must be absent in 25g of analyzed fish. For thermotolerant, values between 50 – 500 CFU/g indicate intermediate quality and values greater than 500 CFU/g indicate compromised quality. For coagulase-positive *S. aureus*, values between 10^2 – 10^3 CFU/g indicate intermediate quality, and values above 10^3 indicate poor quality. The pathogen *Salmonella* spp. was not found in any of the arapaima samples analyzed. For thermotolerant, our results showed that three fish had intermediate quality (fish 2= 150 CFU/g; fish 3= 210 CFU/g; fish 4= 290 CFU/g) and two had poor quality (fish 1 and 5˃1100 CFU/g). High values of total coliforms were also found for all samples (˃ 1100 CFU/g). For coagulase-positive *S. aureus*, all samples were rejected (fish 1=4.3 x 10^3 CFU/g; fish 2= 10^3 CFU/g; fish 3= 1.5 x 10^3 CFU/g; fish 4= 9, 6 x 10^3 CFU/g; fish 5= 3.1 x 10^3 CFU/g). These bacteria in pirarucu samples from Monte Alegre-PA pose severe threats to collective health, requiring regular inspections to ensure the quality and safety of fish in the region. Funding source: FAPESPA/ CNPQ 2022/14379272 and PA04 AmazonBiotec | Inova Amazônia – Tração

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