



## A STUDY OF THE MICROBIOLOGICAL QUALITY OF CURIMATÃ (PROCHILODUS NIGRICANS) IN LOWER AMAZONAS, PARÁ, INDICATES THE PRESENCE OF SALMONELLA SPP., A HIGH NUMBER OF COAGULASE-POSITIVE STAPHYLOCOCCUS AUREUS AND COLIFORMS.

I Integrative International Congress on Animal and Environmental Health, 1ª edição, de 25/06/2024 a 28/06/2024  
ISBN dos Anais: 978-65-5465-100-4

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### RESUMO

Investigating the microbiological quality of fish sold at fairs is crucial to ensuring food safety for consumers. This analysis makes it possible to identify the presence of pathogenic microorganisms that can cause infections and food poisoning. Furthermore, the information generated may indicate inadequate hygiene conditions during processing. This study aimed to analyze the hygienic-sanitary quality of curimatã (*Prochilodus nigricans*). The study was conducted at the leading fair in Monte Alegre-Pará, where 5 curimatãs 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 35°C for 24h. Bergey's key identified typical colonies. Coagulase-positive *Staphylococcus aureus* was quantified on Baird-Parker agar with egg yolk and potassium tellurite (35°C; 48h). 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 method (MPN), lactose lauryl sulfate, 2% bile brilliant green, 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<sup>2</sup> - 10<sup>3</sup> CFU/g indicate intermediate quality, and values above 10<sup>3</sup> indicate poor quality. Unfortunately, *Salmonella* spp. was found in 80% of the curimatãs analyzed. Our results showed that one fish presented intermediate quality (fish 5= 150 CFU/g) and another compromised quality for thermotolerant (fish 4<sup>></sup>1100 CFU/g). The presence of thermotolerance in food is an indication of fecal contamination. High values of total coliforms were also found (> 1100 CFU/g). For coagulase-positive *S. aureus*, the results showed that 80% of the fish analyzed failed (fish 1=15000 x 10<sup>3</sup> CFU/g; fish 2= 1.8 x 10<sup>3</sup> CFU/g; fish 3= 4.5 x 10<sup>3</sup> CFU/g; fish 4= 1.8 x 10<sup>3</sup> CFU/g; fish 5= zero). The presence of these bacteria in food poses severe risks to public health, and regular inspections must be carried out to ensure the quality and safety of the food consumed. Funding source: FAPESPA/ CNPQ 2022/14379272 and PA04 AmazonBiotec | Inova

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**PALAVRAS-CHAVE:** Prochilodus nigricans, higienic-sanitary quality, Salmonella spp, Lower Amazonas, coagulase-positive S, aureus, thermotolerant coliforms

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