

Title: MICROBIOLOGICAL QUALITY OF FRESH LOCAL FISH: COAGULASE-POSITIVE STAPHYLOCOCCI ANALYSIS

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Abstract:

Fish represents a good source of animal protein, but it is also a food which is highly susceptible to microbial changes given that fish live in water. Notable among the microorganisms frequently found to be present are staphylococci, which are pathogens which cause food poisoning. They are found mainly in the oropharynx, hands and skin of human beings, their main reservoir. The absence of good handling practices (GHPs) during processing and/or storage can lead to the presence of these microorganisms in processed products. The aim of this research was to evaluate and quantify the presence of staphylococci in fresh local fish at a fish processing plant monitored by the Brazilian Federal Inspection Service (Serviço de Inspeção Federal - SIF) located in the North Region of Brazil. Analysis was carried out on four lots of spotted catfish and four lots of tambaqui. Sample collections were carried out during two processing stages with four repetitions (fish) for each collection. Each lot was comprised of fish removed together from the excavated pond. The sample collection stages were: reception (raw material: fresh fish before processing) and after the final washing (final product: fresh gutted washed fish conserved in ice and destined for commercialization). 3M™ Petrifilm™ plates (Staph Express) were used for the inoculation of the pre-processed sample. For the confirmation and quantification of coagulase-positive staphylococci a Petrifilm™ confirmation disk was used over the inoculation plate. The Brazilian resolution RDC nº 12/2001 of the Brazilian National Health Surveillance Agency (ANVISA), which establishes safe microbiological standards for food, classifies the quantity found in lots as: acceptable, moderately acceptable and unacceptable. All of the samples evaluated showed acceptable quality, values being below the established limit (m) which separates lots in terms of whether they have acceptable or moderately acceptable quality. The microbiological diagnosis of the raw material and the final product is not sufficient to evaluate processing procedures, but it does provide a reliable indication regarding whether or not GHPs have been applied to ensure the safe production of food. It was thus concluded that the fish processed at the processing plant evaluated is appropriate for consumption, considering the diagnosis regarding staphylococci which suggests the application of GHPs by the warehouse.

Keywords: *Staphylococci*, fish, tambaqui, spotted catfish, processing