

Title: MICROBIOLOGICAL QUALITY OF OYSTERS (*Crassostrea rhizophorae*) INTENDED FOR HUMAN CONSUMPTION FROM SOUTH COAST OF BAHIA

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Summary:

The microbiological quality of the bivalve mollusks is dependent of the environmental conditions. As filter feeders, they can bioaccumulate large numbers of pathogens, causing serious problems to the health when they are consumed *in natura*; several of these pathogens can carry resistant genes to antibiotics. Thus, the microbiological monitoring is essential to ensure the quality of these products, especially in areas of cultivation. The objective of this study was to evaluate the microbiological quality of the oyster *Crassostrea rhizophorae* from the south coast of Bahia, through the search of pathogenic bacteria by the rapid microbiological method Compact Dry (Verus Madasa). The oysters were sampled every two months during the period of one year (June 2013 to May 2014) in the Bay of Camamu (Porto Campo and Maraú) and in the Cachoeira River estuary (Banco da Vitória and Teotônio Vilela). In each collection point, 40 oysters were collected (240 samples per point), totaling 920 oysters. Oysters from the Cachoeira River estuary showed greater level of bacterial contamination throughout the year, with a significant increase ($p < 0.0001$) for total coliforms ($10^{6.59}$ cfu. g⁻¹), *Escherichia coli* ($10^{5.59}$ cfu. g⁻¹) and Enterobacteria ($10^{6.62}$ cfu. g⁻¹) in Teotônio Vilela, in the months with less rainfall. The presence of *Vibrio parahaemolyticus* has been detected only in the autumn period (average $10^{2.9}$ ufc. g⁻¹), both in the Cachoeira River estuary and in the Porto Campo (Camamu Bay). All samples were negative for *Vibrio vulnificus*, *Staphylococcus aureus* and *Salmonella* spp. Regarding to the antibiogram, *E. coli* isolates showed greater resistance to amikacin, ampicillin, cefoxitin and nalidixic acid, depending on the sample location, whereas *V. parahaemolyticus* isolates were resistant to ampicillin. Comparing our results with previous studies, we conclude that oysters from the cultivate area of Camamu Bay have shown low bacterial contamination levels, while in the extractive area of Cachoeira River estuary there is an increase microbial contamination over time, probably due to the increasing discharge of sanitary and industrial untreated sewage.

Keywords: Oyster cultivation, microbial contamination, mangrove oyster, microbiological quality control, rapid microbiological method.

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