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Postprocessing microflora of commercial *soumbara* (a fermented nere seeds product) produced in Côte d'Ivoire.

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Abstract

Soumbara is a fermented food condiment obtained by fermentation of nere seeds (*Parkia biglobosa*). Soumbara, like all traditional food condiments, once produced is sold in informal markets where hygiene conditions are not respected. The objective of this study was to identify microbiological hazards in soumbara sold on the market in Abidjan in order to ensure the health safety of consumers. For this study, 375 samples of soumbara were analyzed. Microbiological analyses focused on the search for spoilage and pathogenic germs as well as the search and quantification of mycotoxins. The results showed that the loads of mesophilic aerobic germs varied from $(3.1 \pm 0.9) \cdot 10^5$ CFU/g to $(5.3 \pm 0.3) \cdot 10^6$ CFU/g. As for the *Staphylococcus aureus* load, it varied from $(1.0 \pm 0.3) \cdot 10^4$ CFU/g to $(3.2 \pm 0.5) \cdot 10^5$ CFU/g. For molds, the load ranged from $(1.2 \pm 0.1) \cdot 10^3$ CFU/g to $(4.8 \pm 0.2) \cdot 10^3$ CFU/g. *Bacillus spores* ranged from $(1.9 \pm 0.7) \cdot 10^4$ CFU/g to $(9.9 \pm 0.8) \cdot 10^4$ CFU/g. *Staphylococcus* loads in soumbara were higher than the maximum acceptable value 100 CFU/g, standard 2005/2073/EC. In the analyzed samples aflatoxins and Zearelanone were detected. The results of mycotoxins detected in soumbara were below the standard EC/1881/2006. *Aspergillus*, *Fusarium*, *Penicelium* and *Stachybotrys*, *Mucor*, *Rhizopus*, *Bacillus cereus*, *Bacillus spp*, *Bacillus subtilis*, *Staphylococcus aureus*, *Staphylococcus spp*, *Bacillus anthracis* were detected in the samples analyzed. All samples analyzed did not contain *Escherichia coli*, *Clostridium perfringens* and *Salmonella spp*. Consumption of soumbara sold on the market could constitute a danger for the consumer.

Keywords: soumbara, microbiological quality, market, mycotoxins

