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**Aptitude fermentaire des levures et bactéries lactiques et leur
effet inhibiteur sur les microorganismes indésirables au cours de
la production du fromage de soja (Glycine max)**

Par

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Abstract

The consumption of soy products is becoming important mainly in low-income households due to their economic accessibility and nutritional contribution. Among the products resulting from the processing of soy, the cheese called "Amon soy" in Benin holds a prominent place. However, the production technology of soy cheese is predominantly artisanal, sometimes in less hygienic conditions, leading to a product of often questionable microbiological quality. This study mainly aims to improve the microbiological quality of soy cheese through the use of efficient fermentation strains that inhibit undesirable microorganisms. The methodology used consisted of (i) highlighting the stages of production at which the risk of contamination and development of harmful microorganisms is high, (ii) evaluating the microbiota of whey used as a coagulant and (iii) using some strains isolated from whey to improve the microbiological quality of the product. The results showed that the whey fermentation stage and the cheese storage stage in water were the critical stages of contamination and development of undesirable microorganisms. The pH of the whey varied between 3,7 and 5,3 with a predominance of lactic acid bacteria ($6,76 \pm 0,13$ to $9,0 \pm 0,0 \log_{10}$ cfu/ml), followed by yeasts ($3,3 \pm 0,4$ to $4,3 \pm 0,7 \log_{10}$ cfu/ml). Enterobacteria were detected at a load of $2,74 \pm 0,01$ to $3,68 \pm 0,08 \log_{10}$ cfu/ml in the whey and $5,3 \pm 0,5 \log_{10}$ cfu/g in the soy cheese storage water. The inhibition test carried out with the strains of lactic bacteria and yeasts showed an inhibition of enterobacteria during the conservation of cheese in water contrary to the results obtained during the fermentation of whey where the inhibition was not significant. This study which deserves to be further developed already provides very interesting results in the search for appropriate solutions for the improvement of the quality of soy cheese.

Keywords: Soy whey; fermentation; lactic acid bacteria; acidity; inhibitory effect