ABSTRACT

Microbiology of a Fermented Fish Sausage

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Since the microbial species are most important in the successful production of fermented foods, studies were done to establish the inoculum size and incubation conditions of two lactic acid bacteria in the fermentation of flying fish (Hirundicythys affinis).

Fermentation in open trays at 24°C resulted in unacceptably low pH's of 4.0 and 4.05 after 24 hrs. for Lactobacillus plantarum and Pediococcus acidilactici. Whereas in the casings the pH values were 6.3 and 6.35 respectively, over the same time period. Using Pediococcus acidilactici at a concentration of $9.2 \times 10^7$ cells/g sausage, a pH ranging between 4.5-4.8 was achieved after 72 hours. Seasoned and unseasoned sausages were fermented in casings, obtaining pH's of 4.5 and 5.45 after 72 hours. The unseasoned sausage was more acceptable.

Sausages were manufactured using Lactobacillus plantarum and Pediococcus acidilactici, the pH values were 4.95 and 5.96 respectively. The Pediococcus fermented sausage was more acceptable.

Physical analyses have shown that Lactobacillus plantarum has a higher viability than Pediococcus acidilactici.