

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 (*Hirundinichthys 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 9.2×10^7 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*.