Thesis Title	Protein Degradation in Fish Sauce Fermentation on Industrial Scale
Thesis Credits	12 Credits
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Degree of Study	Master of Science
Department	Microbiology
Academic Year	1999

Abstract

The fermentation fish sauce industrially produced in Chonburi is a traditional method in which is fermented in concrete tank placed in the sun. Fresh and decomposed anchovies are compared with respect to digestibility of the protein and the quality of fish sauce produced in terms of its chemical components. Changes during the brewing period of fish sauce analytical parameters and histamine content including the level of bacterial growth are reported. The bacteria of fermenting fish sauce is identified with respect to 6 genus, such as *Bacillus Micrococcus, Pediococcus, Halococcus ,Halobacterium* and *Staphylococcus*. The dominant bacterial isolate is from the genus *Staphylococcus* which produce the highest histamine content . The activity of histidine decarboxylase in fish sauce is also tested during months of the fermentation . Fermenting fish sauce are purified on Sephadex G-25 chromatography column. Histidine decarboxylase fraction is thus obtained and further analysed by using ion selective electrode with carbondioxide probe. In the sample made from unfresh anchovy fermentation was found histidine decarboxylase, formaldehyde nitrogen and ammonia nitrogen which were rapidly increased, while amino nitrogen was slightly increased. For the sampled from fresh anchovy fermentation was found histidine decarboxylase activity, formaldehyde nitrogen and ammonia nitrogen. There were less than unfresh anchovy including total bacteria. Amino nitrogen was increased rapidly that the highest level was 10.56 g/l . The dominant bacteria isolate is from the halophilic bacteria such as *Halococcus* and *Halobacterium*. In fresh anchovy fermentation was less histamine content than unfresh anchovy fernentation. Histamine is also formed during fish brewing by degradation of the producing histidine.

Keywords : Fish sauce / Histamine / Histidine decarboxylase / Halophilic bacteria