



Evaluation of applying *Lactobacillus plantarum* and *Lactobacillus sakei* starters on chemical and microbial properties of "Mahyaveh" fermented fish sauce

Mooraki N.*¹; Nademi Sh.²; Sedaghati M.²

1-Department of Fisheries Science, College of Marine Science and Technology, North Tehran Branch, Islamic Azad University (IAU), Tehran, Iran

2-Department of Food Science, College of Food Science and Technology, North Tehran Branch, Islamic Azad University, Tehran, Iran

*Corresponding author's email: Nargess_Mooraki@Yahoo.com

Abstract:

Mahyaveh, a traditional fermented fish product consumed as condiment in southern part of Iran. In this study, the effects of the *Lactobacillus plantarum* and *Lactobacillus sakei* as starter's culture on the chemical and microbial properties of fermented sauce were studied during a 45-days interval. The studied parameters were pH, acidity, crude protein, TVB-N, salt content, biogenic amines (i.e. Histamine and tyramine), halophilic bacteria, LAB, mold and yeast counts. The results showed that pH values and crude protein content were significantly different among the studied groups ($P < 0.05$). The interaction between time and applying starters on significant changes in acidity was observed. The highest amount of TVB-N was measured for treated group. The amount of histamine and the salt content of the samples decreased over time. There was also a significant difference in the tyramine levels of the samples ($P < 0.05$). The highest count of Halophiles, Bacillus, Mold and Yeast were observed in the control group. The cfu of LAB increased during the time of fermentation process. It can be concluded that the inoculated sauce with *Lactobacillus plantarum* and *Lactobacillus Sakei* starters was more acceptable in terms of chemical and microbial properties compare to the control group.

Keywords: Mahyaveh sauce, fermentation, starters, *Lactobacillus plantarum*, *Lactobacillus Sakei*