AIP Conference Proceedings, Volume 2703, 9 June 2023, Article number 080008, 1st International Conference of Chemical Science, Engineering, and Technology, ICO-CSET 2021, Virtual, Online, 6 September 2021through 7 September 2021, Code 189317

The Effect of Different Fresh Spices on the Fermentation Process, Physico-chemical Properties, Lactic Acid Bacteria Microflora and Sensory Acceptability of Fermented Saltwater Clam (Paratapes textilis)

Abstract

Fermentation is the oldest method to process and preserve the food. However, the strong aroma and taste of fermented food is not well accepted by most people especially the young generations. In this study, saltwater clam (Paratapes textilis) which is one of the popular shellfish consumed in Malaysia had been fermented for 6 days with addition of fresh spices such as ginger, onion, garlic and lemongrass. The fermented saltwater clam without any addition of fresh spices was served as control. The aims are to determine the physico-chemical properties, microflora of lactic acid bacteria and sensory acceptability of fermented saltwater clams with addition of different fresh spices. The physico-chemical changes such as pH, colour, texture profile and total volatile basic nitrogen (TVBN) were determined. The microflora and counts of lactic acid bacteria (LAB) were determined using selective agars of deMan, Rogosa and Sharpe (MRS), M17 and Tomato Juice. Over the fermentation period, the lightness (colour L*), firmness and pH decreased whereas TVBN increased. However, the fermented saltwater clams with addition of garlic did not show decrease in pH during fermentation. Lactobacillus sp. were found on MRS Agar and Tomato Juice Agar and Lactic Streptococci were found on M17 Agar in all the treatments. Lactobacillus sp. was found to be the dominant lactic acid bacteria. Among all the treatments, fermented saltwater clam with addition of garlic was the most preferred.