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The effect of different thawing methods on some quality indices of *Otolithes ruber*

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Abstract

In present study, the effect of different thawing methods on the quality of *Otoithes ruber* was studied. For this purpose, freshly caught fish were transferred to Chabahar Pasabandar fish processing plant. After transfering, they were frozen at -36 °C and stored at -18 °C for four months. After that, the chemical (pH, trimethylamine, thiobarbiotic acid and volatile nitrogen bases), physical (water loss, water loss after cooking) and microbial (mesophilic and psychrophilic) indices during thawing by water, air, refrigerator and microwave were examined. According to the results, the amount of volatile nitrogen bases and thiobarbiotic acid in all methods of thawing showed a significant difference with the control group ($P<0.05$) and the highest amount was related to thawing by microwave method. The lowest amount of trimethylamine was observed by refrigeration thawing method and there was a significant difference among various treatments with each other and also in the control group ($P<0.05$). The pH of different thawing methods increased significantly compared to the control group ($P<0.05$). The highest amount of water loss and water loss after cooking was observed in microwave thawing, which had a significant difference with other treatments ($P<0.05$). The number of mesophilic bacteria during different methods of thawing except for thawing method by air was significantly reduced compared to the control group ($P<0.05$) and the lowest amount of mesophilic bacterial load was observed in microwave thawing method. Psychrophilic bacteria load was significantly increased compared to other methods during refrigeration thawing method ($P<0.05$). Overall, the results showed that the appropriate method for defrosting fish is the thawing method in water and refrigerator.

Keywords: Freshness, *Otoithes ruber*, Quality evaluation, Thawing

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