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Effects of whey protein coating containing of *Zataria multiflora* Boiss., essential oil on shelf life of silver carp during chilled storage

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The aim of this study was to evaluate the effects of whey protein coating containing *Zataria multiflora* Boiss., essential oil (ZMEO) on shelf life of silver carp fillet during chilled storage. Silver carp fillet coated by dipping in whey protein solution with different concentrations of ZMEO (0, 0.3, 0.45 and 0.6%) for 1 h. Then, after being packed in polyethylene dishes, they were stored at 4°C for 15 days. There were 168 testing and control packages, each of them weight 250 grams. Microbiological (total viable count (TVC), psychrotrophic bacteria count (PTC), lactic acid bacteria count (LAB) and enterobacteriaceae count (EBC)), chemical (pH, total volatile basic nitrogen (TVB-N) and thiobarbituric acid (TBA)) and sensory changes periodically were determined during chilled storage. The results indicated that the coating treatments have scientific effect on TVC, PTC, LAB and EBC, reduce chemical spoilage and extend the shelf life of silver carp fillets during chilled storage, which was supported by the results of microbiological, chemical, and sensory evaluation analyses. The results of this study show that whey protein coating containing *Z. multiflora* can be a promising candidate for extending the shelf life of silver carp during chilled storage.

Biography

Mohammadreza Mohammadian is a PhD student of Food Hygiene Department, Faculty of Veterinary Medicine, University of Tehran, Iran. The thesis of his PhD course is on edible packaging to extend the shelf life of most spoilage foods such as fish. The edible coating that he was interested in is "Whey Protein Isolate" and "Chitosan" incorporated with essential oils of *Zataria multiflora* and *Cumminum cyminum*.

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