عنوان مقاله:

The Effects of Nanochitosan Coating Integrated to Zataria Multiflora Boiss and Polylophium Involucratum Essential Oils on the Shelf-Life Extension of Silver Carp Fillets

محل انتشار:

فصلنامه تغذیه، روزه داری و سلامت, دوره 10, شماره 3 (سال: 1401)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Introduction: Active antimicrobial food packaging prevents the growth of foodborne pathogens and spoilage microorganisms by incorporating antimicrobial agents into the film materials. Methods: The effects of Nanochithosan (NC) coating containing various concentrations of Polylophium involucratum essential oil (PIEO) and Zataria multiflora Boiss. Essential oil (ZMEO) were investigated on microbial, chemical, and sensory characteristics of silver carp fillets within ۱۲ days during refrigerated storage. Results: The aerobic plate count (APC) exceeded ۷ log CFU/g after day four and day six for the control and samples coated with pure NC, respectively. The samples coated with NC containing ZMEO ۰.۶% and PIEO ۰.۶% showed the lowest microbial count. In a control sample with NC containing ZMEO ۰.۶% and PIEO ۰.۶%, the total volatile base of nitrogen (TVB-N) reached ۳۳.۱۵ mg/۱۰۰ g after eight days, but this value remained lower than ۲۵ mg/۱۰۰ g for the coated samples with NC containing ZMEO ۰.۶% and PIEO ۰.۶%. Generally, integrating the ZMEO and PIEO did not significantly and negatively affected the sensory characteristic of coated samples compared with those of control. Conclusion: According to the results, NC coatings containing ZMEO and PIEO were capable of being used as novel active packaging for fish meat products without compromising their organoleptic characteristics.

کلمات کلیدی: