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A Study on the effects of gelatin film reinforced with cellulose nanoparticle containing buninum persicum and ziziphora clionopodioides essential oils and nisin on some chemical, microbial and sensory properties of chicken fillet

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Abstract

The aim of the present study was to evaluate the effects of Gelatin reinforced by Nanocelluluse particles incorporated Buninum persicum and Ziziphora clinopodioides essential oil on chemical (TVN, pH and PV), microbial (Total mesophilic and psychrotrophic bacteria, Pseudomonas spp. and Enterobacteriaceae family) and sensory properties (odor, color and overall acceptability) of chicken fillet during storage at refrigerated temperature (4±1ºC) for 9 days. The chemical compositions of the Ziziphora clinopodioides and Buninum persicum essential oil were identified by gas chromatography coupled with mass spectrometer detector (GC-MS. Based on the results of the present study, incorporation of Gelatin-cellulose nanoparticle , ZEO and BEO improved the water vapour permeability coefficient (WVPC). The lower lightness (L*) and higher redness (a*) and consequently a darker color was found in the film incorporated with GFL. According to our results, the antibacterial activitiy of Gelatin-nanocelloluse particle film incorporated with BEO and ZEO minimize the bacterial effects, improve the quality and finally extend the shelf life of the product.

Biography:

Sepehr Haghighi is currently Master of Science degree in the major of Food Safety at Islamic Azad university, Science and Research Branch. She is also Occupied at a food and pharmacetutical raw material supplier company.

Speaker Publications:

1. "Characterization of arginine preventive effect on heat-induced aggregation of insulin"; International Journal of Biological Macromolecules; 2019, 145.
2. "Monocyclic phenolic compounds stabilize human insulin and suppress its amorphous aggregation: In vitro and in vivo study";Biochemical and Biophysical Research Communications, 2019.

6th Edition of International Conference on Polymer Science and Technology; Webinar – April 01-02, 2020.

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