

Abstract

Today, due to the adverse effects of synthetic antioxidants, there is a strong tendency to use natural antioxidants. The pomegranate peel extract due to its antioxidant and antimicrobial effect is considered strong. Therefore, in this study the effects of antimicrobial and antioxidant properties of pomegranate peel extract and edible coatings on the quality and shelf life of silver carp fillets during refrigerated storage were researched. For this research silver carp fish were purchased and then filleted. Freshly fish fillet were assigned to three treatments: control (fillet treated with edible coating and no antioxidants); fillet treated with edible coating and 5% PPE (T1) and fillet treated with edible coating and 10% PPE (T2). The fish Fillets during 15 days of refrigerated storage were assessed on microbial analysis (TVC), (PTC), chemical analysis (lipid, moisture, crude protein, and total ash) and Fat corruption measures factors including pH, TBA and PV. Assessed were done on days of 0, 3, 6, 9, 12, 15. The results show that addition of PPE considerably delayed lipid oxidation in silver carp fish fillet in T1 and T2 compared control samples. According to microbiological assay, T1 and T2 samples at days 12 reached to maximum acceptability limit while it was happened in day 9 for control samples. There were significant differences ($P < 0.05$) between treated and control samples at all the days during the refrigerated storage.

Key words: Pomegranate peels extract, Edible coating, Shelf life, Silver carp



University of zabol
Graduate school
Faculty of Natural Resource Department of Fisheries

**The Thesis Submitted for the Degree of M.Sc
(In the Field of Fisheries)**

**Effect of edible coating containing extract of
pomegranate peel on quality and shelf life of
silver carp (*Hypophthalmichthys molitrix*) fillet
during refrigerated storage**

Supervisor:

Dr. E. Zaki pour Rahimabadi

Advisors:

Dr. E. Alizadeh doughikollae

Dr. M. Yousef Elahi

By:

A. Tarkhasi

October 2012