

Abstract

The aim of this study was to evaluate the effect of chitosan film contains grape seed extract on quality of *Cyprinus carpio* fillet during refrigerated storage. In order to select of grape seed extract with highest phenolic compounds, assessment of total phenolic compounds, inhibition free radical measurement, IC₅₀ calculation, capacity of total anti-oxidant, GC\MASS analysis was done between 3 types (black, red, green) of grape seed of *Vitis Vinifera*. Fillets were treated with chitosan film 2%, chitosan film 2% with extract 2% and extract 2% of black grape seed and stored in refrigerator (4°C). Chemical (pH, PV, TBA and TVB-N) and microbial parameters (TVC and PTC) were measured at 0, 3, 6, 9, 12, 15, 18 and 21 days. The results of this research showed that highest amount of total phenolic equivalent of acid-tannic (mg to gr dry matter) is related to the extract of black grape seed and direct link of these compounds were shown with higher inhibition of DPPH free radicals with lower IC₅₀ and highest capacity of total Antioxidant equivalent of acid-ascorbic (mg to ml). Peroxide value and thiobarbitoric acid of chitosan film 2% with extract 2% treatment were lower than the other treatments (P<0.05). The TVB-N value of control was 26.16 mg N/100g of flesh fish in 18 days of storage that higher than acceptable value. The total viable count (TVC) and psychrotrophic count (PTC) of fillets were significantly increased (P<0.05) during refrigerated storage. The results of this research indicate that the chitosan film with extract increased the shelf life of *Cyprinus carpio* fillet during storage in refrigerator.

Key Word: Edible film, Chitosan, Grape seed extarct, *Cyprinus carpio*, Shelf life



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**Effect of chitosan film containing
grape seed extract on quality of
Cyprinus carpio fillets during storage in
refrigerator**

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