

## **Abstract**

The aim of this study was determine the antioxidant effects of orange peel extract on the quality of *Cyprinus carpio* fillet during refrigerated storage (4 °C). Phenolic compounds of orange peel were extracted by acetone solvent and its concentration was measured by Folin-Ciocalteu method. After preparation, fish fillets were treated by 0, 1 and 5 % concentration of orange peel extract and then stored in refrigerator. Chemical analysis (Crude Protein, Crude Fat, Moisture and Ash), Chemical indicators of lipid oxidation (PV, TBA), total volatile nitrogen (TVB-N), pH and also sensory analysis were done at days 0, 3, 6, 9, 12 and 15 of storage. The results showed that with elongation of storage the amount of pH, PV, TBA and TVB-N were increased significantly ( $P < 0.05$ ). The PV content was 14.83, 12.22 and 10.25 for control, 1% and 5% samples, respectively. PV content of control, 1% and 5% samples were higher than acceptability limit at days 9, 12 and 15 of storage, respectively. The TBA content was 0.99, 0.78 and 0.59 for control, 1% and 5% samples, respectively. TBA content did not reached to acceptability limit in all treatments. The TVB-N content was 33.36, 30.56 and 22.63 for control, 1% and 5% samples, respectively. TVB-N content of control and 1% samples were higher than acceptability limit at days 12 and 15 of storage, respectively, and 5% samples was lower than acceptability limit at day 15 of storage. According to sensory analysis results, control, 1% and 5% samples were recognized nonuse at days 9, 12 and 15 respectively. Chemical and sensory analysis results of this study, showed better performance in fillets treated by 5% orange peel extract in comparison with other treatments. Therefore, using a 5% concentration of the extract could be the best proposed dose in the storage of *Cyprinus carpio* fillet.

**Keywords:** Orange peel extract, Common carp, Antioxidant, Phenol compounds



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**Antioxidant effect of orange peel extract on  
Common carp (*Cprinus carpio*) fillet during  
refrigerated storage**

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