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## Alfa-tocopherol, chlorophyll and carotenoid contents of oils obtained from less salty black table olives preserved by vacuum, MAP and gamma irradiation technologies

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The purpose of the study is to determine the effect of preservation and different processing methods on shelf life and quality of oil obtained from less black table olives (natural black olives in brine and turning olives). For this purpose, samples of Gemlik variety olives were harvested from the orchards of Olive Research Institute located in Bornova and Kemalpaşa. Olives were processed by two kinds of methods including packaged with vacuum and modified atmosphered (N<sub>2</sub> 60% and CO<sub>2</sub> 40%) packaging and applied gamma irradiation (0, 1, 3, 5 kGy), then olives were stored in the ambient conditions for 8 months. During fermentation, acidity and pH of black table olives produced through natural fermentation was changed in the standart duration. Slight increasings were observed in the acidity and pH values of vacuum and MAP packaging and gamma irradiated table olives at the end of the product storage.  $\alpha$ -tocopherol, total chlorophyll, and total carotene values were decreased owing to the processing and storage along with radiation treatment and were found statistically significant ( $p < 0.05$ ). Tocopherol quantity decreased during storage (in turning olives from 142.13 to 23.25 mg/kg, naturally black olives in brine from 106.25 to 7.38 mg/kg). Total chlorophyll quantity showed a decrease during storage (in turning olives from 2.06 to 1.31 mg/kg, naturally black olives in brine from 1.24 to 0.65 mg/kg). Total carotenoid quantity diminished during storage (in turning olives from 2.57 to 2.38 mg/kg whereas naturally black olives in brine from 2.37 to 2.23 mg/kg). In this context, it is determined that the best preservation was performed by modified atmosphered packaging (MAP) technology.

### Biography

Ozlem Tokusoglu has completed her PhD at Ege University Engineering Faculty, Dept. of Food Engineering in 2001. She is currently working as Associate Professor; Dr. Faculty Member in Celal Bayar University Engineering Faculty Department of Food Engineering. She performed a Visiting Scholar at the Food Science and Nutrition Department/University of Florida, Gainesville-Florida-USA during 1999-2000 and as Visiting Professor at the School of Food Science, Washington State University, Pullman, Washington, USA during April-May 2010. She has published many papers in peer reviewed journals and serving as an Editorial Board Member of selected journals. She published and scientifically edited two international books entitled "*Fruit and Cereal Bioactives: Chemistry, Sources and Applications*" and "*Improved Food Quality with Novel Food Processing*" by CRC Press, Taylor & Francis, USA Publisher, third book "*Food By-Product Based Functional Food Powders*" is in progress. She also published two national books entitled "*Cacao and Chocolate Science and Technology*" and "*Special Fruit Olive: Chemistry, Quality and Technology*". She organized and/or administered as Conference Chair at many conferences and congresses in various parts of USA and Europe.

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