

Impact of storage in pet packaging on the quality of Algerian virgin olive oil

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The storage conditions and the packaging material can affect olive oil quality. Polyethylene terephthalate (PET) plastic bottles present an economical advantage as a storage material for virgin olive oil. The objective of this study is to investigate the impact of the use of PET bottles as packaging material for the Chemlal's Algerian virgin olive under different storage conditions. We observed a gradual loss of oil quality during storage at 6, 25 and 45°C after fourth months using electronic scan microscopy. PET presented structural instability, due to the effect of temperature, the constraints of storage and the characteristics of the virgin olive oil, without losing rigidity. PET packages presented significant high migration at 40°C after 10 days of contact as revealed by terephthalic acid levels indicating a dynamic interaction between olive oil and PET. These results revealed that PET package is not suitable for the storage of extra-virgin olive oil.

Keywords: Dietary oil; Interaction; Migration; Plastic packaging