

Compositional differences between veiled and filtered virgin olive oils during a simulated shelf life

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The main chemical and physical parameters of veiled and filtered virgin olive oils (VOOs) that are linked to its health and sensory properties, such as phenolic and volatile compounds, were evaluated during a four-month simulated shelf life at room temperature during which the oils were exposed to diffused light for 12 h per day. The specific settings of the vertical centrifuge used to treat the four industrial VOO samples extracted in different Mediterranean areas determined the “veiling” stabilization and reduced the formation of deposits at the bottom of the oil bottles. Cryo-SEM of the veiled oils showed the presence of micro-dispersed water particles that did not contain apparent vegetable fragments. By the end of the storage period, the changes in the quality parameters showed no negative effects on the oxidative stability of the veiled oils compared to the filtered oils. A higher phenolic concentration of Tunisian, Spanish, Greek and Italian veiled VOOs (50.8, 110.1, 389.6 and 389.4 mg/kg, respectively) was detected at the end of storage period compared to filtered samples (20.1, 83.2, 196.1 and 209.6 mg/kg, respectively).

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