

Title Effects of heat-treatments of olive fruit on pigment composition of virgin olive oil
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Abstract

The effects of heat-treatments of olive fruits on olive oil colour were investigated by quantification of the main pigments present in virgin olive oil. Contents of lutein and β -carotene increased as a consequence of heat-treatments. Lutein content increased at least 2.2-fold compared to control olive oil. β -Carotene contents also increased due to heat-treatments although not as much as lutein contents. Chlorophyllic compounds, such as chlorophylls *a* and *b* and pheophytins *a* and *b*, also increased significantly. Thus, chlorophyll *a* contents increased in a range of 2.0 to 7.7-fold compared to the amount found in control olive oil, while pheophytin *a* contents did so over a wider range (1.4 to 17.5-fold). The temperature of fruits when entering the crusher is the only factor responsible for this effect. The involvement of LOX activity in pigment degradation is considered.