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Czech J. Food Sci.

**Baiano A., Terracone
C., Viggiani I., Del**

Changes produced in extra-virgin olive oils from cv. Coratina during a prolonged storage treatment

Czech J. Food Sci., 32 (2014): 1-9

Extra-virgin oil is obtained from olive fruits only by mechanical means. The quality of extra-virgin olive oils is affected mainly by hydrolytic and oxidative reactions. For this reason, the commercial shelf-life is usually no longer than 18 months. In order to investigate the effects of a prolonged storage, olives from cv. Coratina were crushed using a three phase system to produce extra virgin olive oil analysed for sensory and chemical-physical indices, phenolic profile, tocopherol content, and antioxidant activity during a 8-years storage. The oil lost its characteristics of extra-virgin after 6 years of storage, time at which the median of the defects was higher than 0 and free acidity exceeded

the limit fixed for this category by the European Regulation whereas the stability against oxidation persisted for a longer period due to the high concentration of oleuropein derivatives. A strong positive linear correlation was observed between the phenolic content and antioxidant activity measured according to the ABTS₊, to indicate a noticeable radical scavenging ability of phenolic compounds.

Keywords:

aging; antioxidant activity; olive oil; hydrolysis; oxidation; phenolic compounds

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