Characterization of a Novel Oil obtained through the Co-milling of Olives and Hemp Seeds

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In recent years the interest in 'flavored' or 'aromatized' olive oils has increased, in fact, their presence on the market is the answer to a growing consumer demand for new, healthy, natural and tasty food products.

Moreover,in the last years cannabis has regained much attention, as a result of updated legislation that is authorizing many different uses in some countries.In particular, with regard to Italy, the law n. 242 of 2 December 2016 admitted the cultivation of the hemp varieties registered in the European UnionCommon catalogue of varieties of agricultural plant species. Furthermore, the Italian Ministry of Health's circular dated 22 May 2009 admitted nationally also the use of hemp seed, authorized according to the current legislation, as food, so a certain interest is currently around this product.

However, as it is, the hemp oil is highly unsaturated and with a short shelf live (average OSI time around 3 hours) and could benefit by being mechanically and physically co-extracted with olive oil giving rise to a new sustainable oil with an intermediate composition and protected by ole oil polyphenols. In this framework, the aim of the herein presented investigation is the experimental production of a novel oil obtained by the co-milling of olives and unpeeled hemp seeds. A bench low-scale olive oil producing equipment was used for milling the olives, in order to obtain a control sample, and for co-milling olives and hemp seeds. Several analyses have been carried out to characterize the co-milled oil, also in comparison with the control sample: in particular, the basic quality indexes, the composition of fatty acid, as well as the volatile profile were investigated. Moreover, a sensory evaluation was performed, also evidencing positive or negative attributes.

The results of this study will be herein presented and discussed, highlighting a potential market for this novel oil.