

Effect of Different Growing Area on Triacylglycerol Composition of cv. Gemlik Olive Oil in Turkey

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Abstract

Olive oil production of Gemlik cultivar, which is used as table olive, has increased dramatically in Turkey's. The effect of different growing areas on olive (*Olea europaea* 'Gemlik') oil purity parameters were studied in the Marmara and Eagen region, during 2009/2010 crop season. The research was conducted in four different extensively growing districts of *Olea europaea* 'Gemlik', Gemlik (Bursa), Kemalpasa (Izmir), Kuyucak (Aydin) and Akhisar (Manisa). Olive fruits were harvested from trees with similar characteristics in each four districts. Fruits were processed into oil by using Abencor System. As a purity parameters triacylglycerol (TAG) composition (ECN 42, ECN 44, ECN 46, ECN 48, ECN 50, LLL and major fractions LOO, OOO, POO, PLO, SOO) in the oil samples was determined according to International Olive Council (IOC). The olive oil TAG content (OOO ranging from 33.05 % to 37.19 %, SOO 4.32 % to 4.59 %, POO 24.56 % to 25.52 %, PLO 6.20 % to 7.38 %, LOO 11.3 % to 12.98 %) were determined. In all analyzed samples the content of trilinolein (LLL) did not exceed the maximum limit of 0.5 % determined by European Commission Regulation. In the research, significant difference was determined on POO, LLL and ECN42 content ($P<0.05$).

Keywords: Fatty acids, ECN 42, OOO, LOO, HPLC