

Sterol Composition of Aegean Olive Oils

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This study presents sterol composition of Aegean olive oils obtained from Ayvalık and Memecik cultivars. The Aegean coast, the leading olive oil producing area in Turkey, accounts for 75-80 % of national production. The major components of unsaponifiable fraction of olive oil are sterols, which have been attributed to numerous health benefits. They help to reduce cholesterol level by opposing its absorption in intestinal tract. They also have preventive effect against some cancers. The modified DGF method was used for sterol analysis. β -sitosterol, Δ^5 -avenasterol, campesterol, stigmasterol and clerosterol are main sterols detected in olive oil samples. Total sterol content of Aegean olive oils ranged from 2135 to 2673 mg/kg and from 1157 to 1676 mg/kg, respectively, for Ayvalık (n:13) and Memecik oils (n:9). The percentage of apparent β -sitosterol was found in the range of 95 to 96,5 % and in the range of 94 to 95%, respectively, for Ayvalık and Memecik oils. The campesterol content of studied samples ranged from 3,4 to 4 % and from 4 to 5 %, respectively, for Ayvalık and Memecik. Total sterol content and the percentage of apparent β -sitosterol content of all samples were in agreement with the regulation EEC 1989/2003. The campesterol content of Memecik oils was above the legal limit of 4%. The sterol composition of Aegean olive oils showed statistically differences according to cultivars, except clerosterol. Ayvalık oil had the highest content of total sterols. The total sterol content of Ayvalık oils was higher than those reported for Spanish, Italian and Greek ones. The sterol content of Memecik oils was similar to European varieties.