

# Determination of the Accumulated Oil and (CIS)-*Trans* Fatty Acid Composition of Southeastern Anatolia Region Sirnak Province Olive Genotype Through Capillary Column Gas Chromatography Method

Ebru Sakar<sup>1</sup>, Bekir Erol Ak<sup>1</sup>, Mehmet Ulaş<sup>2</sup>, Kürşat Alp Aslan<sup>3</sup>, Abidin Tatlı<sup>4</sup>

<sup>1</sup> Harran University Department of Horticulture, Faculty of Agriculture, Sanliurfa Turkey

<sup>2</sup> Bornova Olive Research Station, Izmir -Turkey <sup>3</sup> Gaziantep Peanut Research Station,

<sup>4</sup> Gaziantep -Turkey <sup>4</sup> Biological Combat Research Station, Adana -Turkey

Many factors contribute to the production of a good quality olive oil, including the region olives are grown, the type of olives, climate and changes in its annual rate, harvest time, harvest method, transportation of olives to the processing facility and processing method itself. The primal effects of geographical location and climate rest in their contribution to the fat level the fruit can reach: olives grown in different regions yield oils of different fat levels, therefore creating a difference in the quality of the oil. Random olive fruits of 34 different olive genotypes from Silopi, Uludere and Cizre towns of Sirnak province were handpicked from all over the trees (which were designated at the time of harvest) and the samples placed in 250 gram polyethylene bags placed among ice cubes were transported to the lab on the same day, kept in store in -20 Celsius degrees until studied in a deep freezer. The thawed olives were studied in the same day and were not frozen again. Maximum accumulated fat was observed in N. hasko-9 type with a 8.8%, and lowest in N.hasko-3. Deran-4 and Kizilsu-3 types with 2.0%. After a study into the fatty acid composition, (palmitik) acid rates of standard saturated fat acids ranged from 10.34 (N.hasko-4) and 20.92% (Deran-5). (Stearik) acid, the second among saturated fat acids, ranged from 2.25% (Ziron-1) to 3.91% (N.hasko-2). (Oleik) acid, one of the (tekli) unsaturated fatty acids, turned out to range between 49.33% (Kizilsu-2) and 67.96% (Ziron-1), while (linoleik) acid of (coklu) unsaturated fatty acid was designated as between 7.52% (Ziron-1) and 31.51% (Deran-4). (Linolenik) acid ranged from 0.63% (N.hasko-4) and 2.72% (Deran-5).

**Key words:** Sirnak, *trans* fats, gas chromatography