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P94. DETERMINATION OF THE ADULTERATION IN OLIVE OILS WHICH SOLD UNCONTROLLED

Nesrin IÇLI, Gülçin Ö. ÇANTAY, Sezen ÇETINER, Zeliha KAYAALTI

Kastamonu University Fazıl Boyner Faculty of Health Sciences, Kastamonu, Turkey
Ministry of Customs and Trade, Ankara Laboratory Directorate, Ankara, Turkey
Ankara University, Institute of Forensic Sciences, Cebeci, Ankara

The regulations relating to olive oil are covered by "Olive Oil and Pomace Oil Communique" in the “Turkish Food Codex” in Turkey and monitored by the Ministry of Food, Agriculture and Livestock. According to this communique, the mixing of olive oil with other oils (adulteration) is forbidden. Today, the liter price of extra virgin olive oil in Turkey has increased to about 20-25 TL. Thus, the people tend to buy the unbranded and cheap oils sold uncontrolled in the streets and bazaars. The possibility of adulteration of these oils is very high.

The aim of this study was investigating of the unbranded olive oils in terms of adulteration and comparing with some of olive oils of the best known trademarks. The fatty acid composition (it was analyzed by GC-MS), refractive index and free fatty acidity expressed oleic acid (wt%) were determined in 40 samples (7 of them are trademarks).

The fatty acid composition of 10 of 33 olive oils sold uncontrolled, were different from the fatty acid composition of olive oil. Furthermore, their linoleic acid amounts were found to 2-3 fold higher than olive oil’s. It showed that these oils mixed with other vegetable oils contained high amounts of linoleic acid. The refractive index values at 20 °C (nD20) and free faty acidities of the samples that in accordance with the specifications "Extra virgin olive oil”, were between 1.4672 to 1.4691 and 0.28% to 3.64%, respectively, these values for the inappropriate samples were between 1.4710 to 1.4738 and 0.09% to 0.67%, respectively. According to Communique, the crude oils were defined as the inappropriate oils for direct consumption, and the free faty acidity values of them more than 2%. The values of free faty acidity of 9 of 33 samples sold uncontrolled, were founded more than 2%, in accordance with crude oils. All of the analysis results of trademarks were found appropriate for the specifications of "extra virgin olive oil".

* nesrinicl@yahoo.co.uk