

PHYSICHO-CHEMICAL CHARACTERISTICS OF SUNFLOWER OIL IN MARKET

Milidin Bakalli^{1*}, Julis Selamaj²

¹Faculty of Professional Studies, University of Aleksandër Moisiu - Durres,
Currila nn, 2001 Durres, Albania

²Laboratory of Chemistry, Central Laboratory of Armed Forces,
Myslym Keta nn, 1002, Tirana, Albania

*e-mail: bakallim@gmail.com

Abstract

Edible oil consumption in Albania is about 30 million tons in the year. Despite health benefits, overconsumption may cause obesity and cancer from toxic substances during frying process. The aim of the study was to investigate the quality of sunflower oil in market in Tirana.

Three oil samples (O1, O2 and O3) were analyzed during this study. Physico-chemicals parameters density, refractive index, saponification value, acid value and peroxide value were determined by standard methods were determined by standard methods, and these data are compare with Albanian standard for quality of sunflower oil (SSH 203:2003).

The density of samples shows that maximum (0.922) in O3 oil and O1 showed minimum 0.919. Average acid value varied from 0.378 mg/KOH/g at O1 oil to 0.223 mg/KOH/g to O2 oil. Highest refractive index were observed in O2 1.474 and lowers in O1 - 1.467. Maximum saponification values were observed at only O2 sample 282 mg/KOH/g and minimum in O3 oil 181 mg/KOH/g. The peroxide values varied from 4.66 to 10 for three types of oil samples. The physico chemical properties for oils are in compliance with the requirements of the standard for the quality of sunflower oil, and the exceptions are only two samples of O1 oil where the acid value and saponification value are higher than the standard.

These data shown that sunflower oil may were mixed with oil with shorter fatty acid chain, such us palm oil. We recommend more frequent analysis by the national food authority for consume secure oil.

Key words: Sunflower oil, Market, Physico-chemical properties, Quality.