

Correlations between some physico-chemical properties of sunflower oil

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Abstract The major objective of this study is to report physico-chemical properties of sunflower oil samples collected from different stages of the technological process for sunflower oil refining for food industry. The samples of oil were crude oil, washed oil, bleached oil and deodorized oil. The physico-chemical properties of sunflower oil experimentally determined were density, saponification value (SV), iodine value (IV), and acid value (AV). It was found that the density of sunflower oil remains approximately constant over the different stages of the manufacturing flow of cooking oil, except the crude oil. The acid value significantly decreases from crude oil (2.588) to deodorized oil (0.366). The iodine value and saponification value of the different samples of the sunflower oil corresponding to different stages of oil processing varies slightly. The capacity of different models to accurately correlate and/or predict the density of vegetable oil was tested. The density of sunflower oil can be accurately estimated from its SV and IV or with an empirical equation, when density data are available.

Keywords: density, sunflower oil, physico-chemical properties.
