

Study on Physicochemical Properties of Coconut Oils Produced in Jaffna District

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Peroxide value, color, relative density, moisture content and unsaponifiable matter are some important parameters usually considered as the indicators in the determination of coconut oil quality. The oil, which can be used for the edible purpose must meet the standard value for all quality parameters. The present study evaluated these parameters in coconut oils produced locally in the Jaffna district. Ten processing centers were selected randomly from different areas in Jaffna district. Two freshly extracted oil samples were collected in two different time period from each processing center. All parameters of the samples were determined according to Sri Lanka Standard (SLS) 313 procedure and the results were compared with Sri Lanka Standard 32:2002. According to the SLS 32:2002, the peroxide value ranges less than 10 meq O₂/kg, relative density at 30 °C ranges 0.915-0.920, color less than 5, moisture content at 105 °C less than 0.4 and unsaponifiable matter percent by mass less than 0.8 can be an indication for good quality coconut oil. The results showed that the mean color and moisture content of coconut oil samples from all processing centers met the standard value. Unsaponifiable matter of coconut oils from eight processing centers constituting 80 % complied with the standard value while 20 % did not. The peroxide value of all samples except one within the standard value. Oil samples from six processing centers only contained the acceptable values of relative density. Samples obtained from five processing centers (50 %) contained the acceptable values for all five quality parameters. However samples from other five processing centers did not met the acceptable values for all five quality parameters. Therefore, based on the results of this study suggests the coconut oils produced in Jaffna district can be used for edible purpose. It also recommends some processing centers need improvements in their processing methods to obtain all the quality standards specified in SLS.

Keywords: Color, Moisture content, Peroxide value, Relative density, Unsaponifiable matter