

Comparative Study on Quality Characteristics and Antioxidant Activities of Different Types of Palm Treacle

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Treacle is any uncrystallized syrup made during the production of sugar. The most common forms of treacle are golden syrup, a pale variety, and a darker variety known as black treacle. Black treacle or molasses has a typically strong, slightly bitter flavour, and a richer colour than golden syrup. Black treacle is obtained from palm such as palmyrah, coconut and kithul, which are available from Jaffna market used as the main sweetening agents for cake, curd, tea and coffee. There is a competition for the customerstothe selection of nutritionally best treacle. Therefore this research was designed to evaluate the best treacle this contained good physicochemical and nutritional characteristics. Triplicate treacle samples of palmyrah, coconut and kithul were obtained from one batch of respective production centers and used for the analysis. All types of treacle were in compliance with SLS specifications while there were significant different among the tested parameters. Significantly higher($P < 0.05$) total sugar (63.90%) and ash content [$0.075(\pm 0.002)$] %was obtained for palmyrah treacle, while protein content was significantly highest for coconut [$0.410 (\pm 0.0040)$] than kithul [$0.570 (\pm 0.0120)$] and palmyrah [$0.028 (\pm 0.0070)$] %.Total phenolic content was significantly highest for coconut [$0.807 (\pm 0.004)$] while there were no significant different between palmyrah [$0.547(\pm 0.001)$] and kithul [$0.545 (\pm 0.002)$] mg/100g⁻¹. DPPH scavenging ability with the IC50 values of palmyrah, coconut and kithul were $0.0169 (\pm 0.003)$, $0.029 (\pm 0.004)$ and $0.021(\pm 0.004)$, respectively. Total phenolic contents exhibited significantly positive correlation (0.79, $P=0.011$) with the IC50 values of different treacle. The results of this study showed that palmyrah treacle showed highest amount of minerals and antioxidant activity when compared with other palm treacle.

Keywords: Treacle, Palmyrah, Antioxidant activity

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