

# Effect of Ohmic Heating on the Rheological Characteristics and Electrical Conductivity of Mulberry (*Morus nigra*) Puree

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The effect of temperatures (30 – 90 °C) and concentrations (50% and 100%) on rheological parameters of mulberry puree processed with ohmic heating (OH) were evaluated. The electrical conductivities of mulberry puree ranged from 0.022 to 0.102 S/m for 50% puree and 0.052 to 0.185 S/m for 100% puree. The best model for rheological parameters of mulberry puree was the power law model ( $R^2 > 0.90$ ). The effects of OH treatment and temperature of puree on the flow behavior index ( $n$ ) were insignificant ( $p \geq 0.05$ ). However, a significant difference ( $p < 0.05$ ) between consistency coefficient ( $K$ ) of OH-treated and control sample was observed in 100% puree. The pseudo activation energy ( $E_a$ ) of ohmic-treated puree was 9.67 kJ/mol for 50% puree and 3.69 kJ/mol for 100% puree, both of these values were significantly lower than that of the unprocessed 100% puree (16.07 kJ/mol). The obtained  $E_a$  indicates that after undergoing ohmic heating pretreatment, consistency coefficient of mulberry puree became less sensitive to temperature.