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Master Thesis Defense

Entitled

PHYSICOCHEMICAL CHARACTERISTICS OF MONOFLORAL EMIRATI HONEY

by

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Abstract

Honey is a sugar solution used as a food and as a food ingredient. According to Codex standards, honey from different floral sources is regulated by its contents of sugar (>60%), moisture (<20%), acidity (<50meq/kg), and hydroxymethylfurfural (<40mg/kg) and (<80mg/kg) of honey of declared origin from countries or regions with tropical ambient temperatures. The aim of this thesis was to study the physiochemical composition of four types of monofloral honeys collected in UAE: sider (*Ziziphus spina-christi*), samar (*Acacia tortilis*), ghaf (*Prosopis juliflora*), and neem (*Azadirachta indica*). Twelve pure honey samples (5 sider, 5 samar, 1 ghaf, and 1 neem) were tested for their main physiochemical parameters including sugar composition, moisture content, pH/free acidity, minerals, total phenolic compounds, hydroxymethylfurfural, texture, viscosity, and glass transition temperature. Results of all samples were found to fall within the accepted levels in the Codex honey standards and were not distinguishable by chemical analyses. The neem honey was different from the other honeys in color being much lighter and greener. Texture analysis showed that samar samples were harder, more adhesive, and more gummy compared to sider samples ($p < 0.01$). There was a significant Pearson's correlation between honey hardness and viscosity at 20 °C ($p < 0.05$). Further studies with more advanced chemometric techniques should be performed to test their ability to provide a more facile differentiation between different types of honey.

Keywords: Emirati honey, sider, samar, ghaf, neem, physiochemical properties, texture.