

Comparison of selected local honey with Manuka honey based on their nutritional and antioxidant properties

ABSTRACT

This study aimed to determine and compare the proximate composition, sugars content and antioxidant properties of selected Malaysian raw honey (Tualang, Gelam, Kelulut, Wild, and Pineapple) with Manuka honey. Proximate analysis (energy, carbohydrate, protein, fat, ash, moisture and total dietary fibre), sugar analysis (fructose, sucrose, glucose and maltose), total phenolic content (TPC) and antioxidant analysis (DPPH radical scavenging activity and linoleic acid oxidation assay) were conducted on the honey samples. The proximate analysis and sugar analysis results for all honeys were within Codex Alimentarius Commission guidelines. In general, Malaysian honeys exhibited lower level of carbohydrates (80.27% to 82.32%), energy (324.18 kcal/100 g to 331.20 kcal/100 g), ash (0.17% to 0.28%) and protein (0.24% to 0.26%, except for Gelam 0.45%) but higher in moisture (17.07% to 19.08%) and fat (0.10% to 0.36%) contents compared to Manuka honey. No significance differences ($P>0.05$) was detected in total sugar among the honey samples. Overall, among the selected honeys, Kelulut honey has the highest energy content, lowest moisture level, fat content and fructose level. Meanwhile, Wild honey showed the highest phenolic content and antioxidant activities.

Keyword: Antioxidant activity; Malaysian raw honey; Proximate composition; Total phenolic content