

Physicochemical and microbiological quality of selected commercial and traditional honey in Klang Valley Market, Malaysia

ABSTRACT

This study was intended to determine the physicochemical and microbiological quality of commercial and traditional honey in Klang Valley. Eleven honey samples from different origins were obtained and examined. Commercial honey samples were labelled as A, B, C, D, E and F and traditional honey samples consisted of Yemeni Sidr honey, Red Tualang honey, Black Tualang honey, Acacia honey and Fraser Hills Tualang honey. Physicochemical quality such as sugar content moisture content, water activity, pH and colour were measured. The pH value for commercial honey reached from pH 3.48 to 3.97 while the pH value for traditional honey reached from 3.07 to 4.72. The moisture content of commercial honey ranged from 17.53% to 18.93% compared to moisture content for traditional honey ranged from 18.03% to 20.67%. The water activity for commercial and traditional honey was in the range 0.56 to 0.62 aw and 0.52 to 0.62aw, respectively. Total sugar content obtained for commercial honey varied from 79.27 to 81.73 g/mL while total sugar content obtained for traditional honey were slightly higher, from 80 to 83.77 g/mL. Colour revealed that commercial honey, D, has the darkest colour compared to other honey (*L=2.11±0.08, *a=-0.02±0.21, *b=1.63±0.15). Standard plate count and yeast and mould were carried out to determined microbiological quality of honey. Generally, honey samples A, B, C, D and Acacia honey were considered safe, as no growth was detected on standard plate count. Less than 10 CFU/g was detected in Honey E, Black Tualang honey and Fraser Hills Tualang honey. There was no growth of yeast and mould count except for Red Tualang honey with not more than 10 CFU/g. Results in this study are within the limits of standards and are comparable with previous reports on honey from various countries.

Keyword: Honey; Physicochemical properties; Microbiological quality