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Physiochemical quality evaluation of Sri Lankan bee honey

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Bee honey is a natural sweet viscous substance which is well known as nutritional and medicinal product. Sri Lanka has suitable climatic conditions and floral sources for the facilitation of bee honey productions. However, those factors can be varying between different provinces of Sri Lanka. Apart from that quality of bee honey varied among the wild colonies and honey collected from artificial colonies due to the variations in harvesting practices. Therefore this study was conducted to identify the variations in Hydroxymethylfurfural (HMF) content, sucrose, refractive index and pollen content among the honey collected from different provinces while comparing those with Codex standards. HPLC technique was followed for sucrose and HMF analysis whilst refractometer and microscopic methods followed for refractive index and pollen identification respectively. All the bee honey samples collected from wild and artificial colonies gave lower HMF content compared to the Codex and Sri Lankan Standard. Although 33% commercial bee honey samples gave much higher HMF content while rest of samples were gave lower HMF content compared to the Codex standards (80 mg/kg). Both bee honey samples collected from wild and artificial colonies gave very low sucrose % compared to the CODEX standards. There is no significant difference between the sucrose content in different provinces at 0.05 significant levels except Sabaragamuwa province. The refractive index value of the wild bee honey samples collected from different provinces changing from 1.4615 to 1.4865 while resulting 20% to 30% moisture content. Under the pollen analysis several plant families were identified; for instance family Asteracea, Fabaceae etc. Analyzed quality factors were more or less similar among the different provinces as well as wild and artificial bee honey samples.