ABSTRACT

Identification of Monoflora Honey (Kopi, Randu, Sonokeling) with *Attenuated Total Reflectance-Fourier Transform Infrared* (ATR-FTIR) Spectroscopy

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Honey is a natural liquid that is generally thick and has a sweet taste, derived from the nectar flora that is processed and collected by bees. Honey contains carbohydrates, air, minerals, amino acids, flavonoids, vitamins, enzymes, and protein in different amounts according to the origin of the nectar flora, geographical location and season and has great benefits in the health sector including anti-inflammatory and gastrointestinal disorders , antiviral and antibacterial. This study aims to determine the different spectra of honey originating from various regions in Java Island using ATR-FTIR spectroscopy at wave numbers 400-4000 cm^{-1} so as to produce profile and absorbance spectra of each sample. The results showed that all honey samples originating from various regions in Java Island had the same absorbance at wave numbers 2935 cm^{-1}, 1647 cm^{-1}, 1418 cm^{-1}, 1340 cm^{-1}, 1251 cm^{-1}, 918 cm^{-1}, 865 cm^{-1} and 776 cm^{-1} are called common peaks, but honey samples also have absorbance at certain wave numbers according to geographic origin or producer origin, where the results of the analysis are then processed using cluster analysis based on the similarity of properties between objects (between samples) which are reported in the form of dendrogram, in order to obtain the results that honey samples obtained from various regions in Java Island tend to form clusters based on the similarity of producer origin or geographical origin.

Keywords: Honey, geographic origin, ATR-FTIR spectroscopy, cluster analysis