

## Development of rapid and accurate method to classify malaysian honey samples using uv and colour image

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### Abstrak

The purpose of this paper is to classification of three main types of Malaysian honey (Acacia, Kelulut and Tualang) according to their botanical origin using UV–Vis Spectroscopy and digital camera. This paper presented the classification of the honey based on two characteristics from three (3) types of local honey, namely the antioxidant contents and colour variations. The former uses the UV spectroscopy of selected wavelength range, and the latter using RGB digital camera. Principal Component Analysis (PCA) was used for both methods to reduce the dimension of extracted data. The Support Vector Machine (SVM) was used for the classification of honey. The assessment was done separately for each of the methods, and also on the fusion of both data after features extraction and association. This paper shows that classification of the fusion method improved significantly compared to single modality Honey classification based on the fusion method was able to achieve 94% accuracy. Hence, the proposed methods have the ability to provide accurate and rapid classification of honey products in terms of origin. The proposed system can be applied in Malaysia honey industry and further improve the quality assessment and provide traceability.