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Impact of harvesting seasons on physicochemical properties and volatile compound profiles of Malaysian stingless bee honey analysed using chemometrics and support vector machine

Sharin, Siti Nurhidayah^{a, f}; Abdullah Sani, Muhamad Shirwan^c; Kassim, Nur Kartinee^d;Yuswan, Mohd Hafis^a; Abd Aziz, Azharuddin^c; Jaafar, Mohd Azwan^b; Hashim, Amalia Mohd^{a, b} [Save all to author list](#)^a Halal Products Research Institute, Universiti Putra Malaysia, Selangor, UPM Serdang, 43400, Malaysia^b Department of Microbiology, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, Selangor, UPM Serdang, 43400, Malaysia^c International Institute for Halal Research and Training, Level 3, KICT Building, International Islamic University Malaysia, Kuala Lumpur, 53100, Malaysia^d Department of Chemistry, Faculty of Sciences, Universiti Putra Malaysia, Selangor, UPM Serdang, 43400, Malaysia[View additional affiliations](#) 1 80th percentile
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Discrimination of Malaysian stingless bee honey from different entomological origins based on physicochemical properties and volatile compound profiles using chemometrics and machine learning

Sharin, S.N. , Sani, M.S.A. , Jaafar, M.A.
(2021) *Food Chemistry*

Classification of stingless bee honey based on species, dehumidification process and geographical origins using physicochemical and ATR-FTIR chemometric approach

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Meliponinae and Apis mellifera honey in southern Brazil: Physicochemical characterization and determination of pesticides

Marcolin, L.C. , Lima, L.R. , de Oliveira Arias, J.L.
(2021) *Food Chemistry*[View all related documents based on references](#)

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Abstract

Stingless bee honey's nutritional value is gaining attention, but the impact of harvesting seasons, specifically the rainy (September 2018) and dry (February 2019) seasons in Malaysia on the honey's physicochemical properties and volatile compounds remains insufficiently explored. This research revealed marginal differences in the physicochemical properties between seasons. However, through individual bee species and cumulative data analysis, honey samples were effectively differentiated based on harvesting seasons. A set of seventeen volatile compounds were identified as potential chemical markers for distinguishing *H. bakeri*, *G. thoracica*, and *T. binghami* honey between rainy and dry seasons. For cumulative data, four significant markers were proposed. These discrimination methods and chemical markers can serve as valuable references in distinguishing stingless bee honey, whether its entomological origin is specified or not between rainy and dry seasons. © 2024 Elsevier Ltd

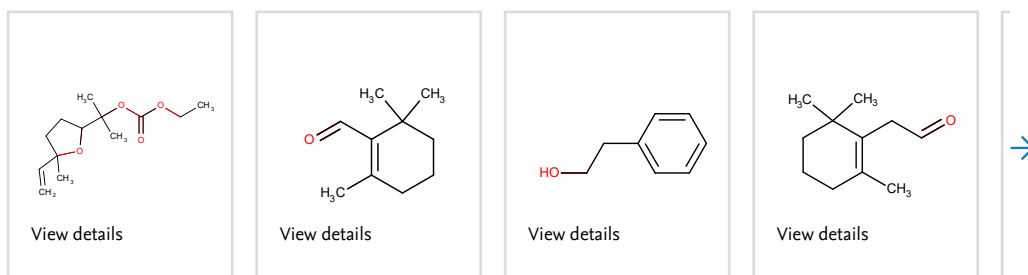
Author keywords

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