ABSTRACT

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COMPARISON ON AROMA PROFILES OF JERUK LIMA (Citrus amblycarpa Hassk.), JERUK PURUT (Citrus hystrix DC.), AND JERUK NIPIS (Citrus aurantifolia Christm.)

This project aimed to compare the aroma profiles of jeruk limau (Citrus amblycarpa Hassk.), jeruk purut (Citrus hystrix DC.), and jeruk nipis (Citrus aurantifolia Christm.) as well as their preferred applications in foods. GC-MS was used for the objective analysis and Quantitative Descriptive Analysis (QDA) was used for sensorial analysis. The major volatiles found in jeruk limau were β-pinene, limonene, α-pinene, terpinen-4-ol, and γ-terpinene; in jeruk purut, there were α-pinene, terpinen-4-ol, 4-carene, and γ-terpinene; and limonene, β-pinene, α-farnesene, δ-elemene, and geranial were found in jeruk nipis. The chromatogram profile of jeruk limau was closer to jeruk nipis. Based on PCA Biplot, the dominant aroma perceived in jeruk limau, jeruk purut, and jeruk nipis were woody; citrus-like and green; and flowery and sour pungent consecutively. Jeruk limau and purut can be distinguished by woody aroma (pinene and γ-terpinene). The attributes that closely related jeruk limau and nipis were citrus-like and green (β-pinene, limonene, and terpinen-4-ol). The sensory profiles of jeruk nipis and purut were not closely related to each other. Jeruk nipis was significantly preferred to jeruk purut. The preference of jeruk limau was not significantly different with the other two citruses. Jeruk limau was preferred to be applied mostly in Indonesian traditional foods, while jeruk purut and nipis were both preferred to be applied as drinks and candies.

Keywords: jeruk limau (citrus amblycarpa), jeruk purut (citrus hystrix), jeruk nipis (citrus aurantifolia), aroma, volatile, GC-MS, QDA, PCA, hedonic test

References: 61 (1979-2012)