ABSTRACT

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COMPARISON ON VOLATILE PROFILES AND SENSORY PREFERENCE OF IPB-9 AND IPB-6x9 PAPAYAS (*Carica papaya* L.)
(xiii + 44 pages: 9 tables, 18 figures, and 5 appendices)

As an institute which works on obtaining good fruit cultivars from Indonesia, it is important for Pusat Kajian Buah Tropika (PKBT) to document the varieties’ profiles of tropical fruits, including their aroma active compounds. One variety and one thread of papaya (*Carica papaya* L.), Callina (IPB9) and IPB6x9 respectively, were chosen in this research to be observed. As a comparison, a well-known papaya variety called Bangkok, was also analyzed. In this research, the volatile compounds were determined using Gas Chromatography–Mass Spectrometry (GC-MS) while the aroma active compounds have been confirmed by using Gas Chromatography-Olfactometry (GC-O). Hedonic test was also conducted to study the sensory acceptance to the volatile profiles of each papaya. In order to know which cultivar was liked, more comparing one to another, a ranking test was also conducted. There were 25 volatile compounds, which usually detected in papaya, have been identified in Bangkok papaya extract. Meanwhile there were 21 and 17 in IPB9 and IPB6x9 respectively. Important volatile compounds detected were alcohols, esters, aldehydes, and sulfur containing compounds. The result of GC-O showed there were 4 aroma active compounds (*butanoic acid*, *acetophenone*, *linalool oxide* (pyranoid), *δ-octalactone*), which contributed to stinky and floral aroma, detected from Bangkok, 3 (*γ-hexalactone*, *γ-hexalactone*, and *δ-octalactone*) from IPB9 which contributed to floral, herbal, and sweet aroma, and 2 (*butanoic acid* and *benzyl isothiocyanate*) from IPB6x9 which contributed to stinky and smokey aroma. IPB9 and Bangkok cultivars appeared to be the most preferred in term of their color, taste and overall attributes. The texture of IPB9 was the most preferred while the texture preference between Bangkok and IPB6x9 was not significantly different. The ranking test result showed that there was no significant difference of preference between IPB9 and Bangkok. IPB6x9 came as the least preferred.

Keywords: papaya, GC-MS, GC-O, hedonic test, rank test
References: 75 (1981-2012)