VOLATILE SUBSTANCES IN GREEN FRUIT OF FOUR PAPAYA CULTIVARS

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ABSTRACT

Texture and aroma of the fruit are important factors that directly affect the taste and consumer preferences. One of the factors that may affect the smell of green papayas is the amount of latex produced due to its unclear harvesting period. Therefore, this study aimed to evaluate its smell by a sensory panel and determine the amount of latex produced from 8 cultivars of green papayas at 75, 95, and 125 days after flowering. The highest amount of latex was observed in 'Khak Nuan', 'Khak Dam Watpleng', 'Rang Nai Roi', and yellow flesh papayas while the lowest amount of latex produced was observed in 'Krang Daeng'. Furthermore, the highest amount of latex was observed in green papayas at 75 days after flowering and decreased at 95 and 125 days after flowering. The highest smell scored was observed in 'Khak Dam Watpleng' and green papayas at 95 and 125 days after flowering while the lowest smell scored was observed in 'Krang Daeng', yellow flesh, and green papayas at 75 days after flowering. Additionally, volatile substances and their amount in green papaya fruits at 75 days after flowering of the four cultivars ('Khak Dam Kaset', 'Khak Nuan', 'Krang Lueng', and 'Khak Dam Damnoen') were studied using Gas chromatography-Mass spectrometry. Fifteen volatile compounds, i.e., ethanol, benzyl alcohol, nonanal, methyl octanoate, benzyl isocyanate, decanal, eugenol, benzyl isothiocyanate, dihydropseudoionone, butylated hydroxytoluene, isopropyl myristate, methyl palmitate, dibutyl phthalate, isopropyl palmitate, and methyl heptadecanoate were found in green fruits of 'Khak Nuan', 'Krang Lueng', and 'Khak Dam Damnoen' papayas. Among all identified volatile substances, benzyl alcohol was the most abundant substance in all four cultivars. As for the green papaya fruit of 'Khak Dam Kaset', all volatile substances except isopropyl myristate and benzaldehyde were found that was not observed in other cultivars.

Keywords: papaya salad, fruit smell, Gas chromatography-Mass spectrometry, papaya latex, papaya smell