Aroma Volatile Production During Natural Ripening of Ambul Banana (*Musa acuminata*, AAB)

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Abstract

A study was conducted for the identification of aroma compounds in *Ambul* banana (*Musa acuminata*, AAB) and to study the development of aroma profile during natural ripening process. Mature green banana was obtained from Dankotuwa, Sri Lanka and kept to naturally ripen at 25 ^{0}C and 80% RH. Aroma profile was analyzed in 48 hours intervals using Headspace- Solid Phase Microextraction (HS-SPME) as a sampling method and gas chromatography with mass spectrophotometer for the analysis of compounds. Twenty-eight aroma compounds were detected in fully yellow stage (stage 6) of *Ambul* banana while 13 compounds were detected in unripe green stage (Stage 1). Carbonyl compounds were the mostly available type of compounds in the aroma profile of unripe fruit where 2-hexenal was major. During ripening number aroma compounds were increased as well as the number of esters. At stage 6, 19 esters, 4 carbonyl compounds, 3 alcohols and 2 phenolics were recorded. Butanoic acid, ethyl ester; 3-methylbutyl acetate; butanoic acid, 3-methylbutyl ester and butanoic acid, propyl ester were found as the most abundant esters. Hexanal and furan, 2-pentyl were detected at all stages during the ripening process. 2-Hexenal, 1-Hexanol and nonanal were detected until stage 4 whereas they become absent at stage 6. The aroma profile of banana gets rich with the development of the fruit contributing to the fruity aroma of banana.

Keywords: Banana aroma, Natural ripening, Odour active compounds, Solid phase micro extraction.

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