

**Title** Changes and distribution of aroma volatile compounds from pineapple fruit during postharvest storage

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#### **Abstract**

The aroma volatile compounds in both pulp and core of 'Tainong 17' pineapple fruit were extracted by head-space solid-phase microextraction (HS-SPME) and analyzed by gas chromatograph-mass spectrophotometer (GC-MS) during postharvest storage (at the 1<sup>st</sup>, 6<sup>th</sup> and 9<sup>th</sup> day after harvest) at 25±1°C. Eighteen volatile compounds were identified, in which, esters were the most dominant, and butanoic acid methyl ester, hexanoic acid methyl ester and 3-(methylthio) propanoic acid methyl ester were all detected in both pulp and core. During the postharvest storage, the total content of esters increased from 65.47 to 81.18% in the pulp, but increased at the beginning and then decreased later in the core. At the 1<sup>st</sup> day, the content of hexanoic acid methyl ester was highest of all compounds in the pulp and the core, followed by butanoic acid methyl ester in the pulp. At the 6<sup>th</sup> day, butanoic acid methyl ester was the most dominant in the pulp followed by hexanoic acid methyl ester and octanoic acid methyl ester, while hexanoic acid methyl ester was the highest in the core followed by octanoic acid methyl ester and butanoic acid methyl ester. At the 9<sup>th</sup> day, hexanoic acid methyl ester and methyl-2-methylbutyrate were the main aroma compounds in the pulp, while butanoic acid methyl ester and hexanoic acid methyl ester were the main compounds in the core. At day 9, the contents of esters increased to the maximum in the pulp (81.18%) while they reached a minimum in the core (47.13%). Esters are an important class of volatile aroma compounds in not only the pulp but also the core.