ABSTRACT

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COMPARISON OF AROMA ACTIVE COMPOUNDS IN PISANG MAS (Musa acuminata), PISANG KEPOK (Musa paradisiaca), AND PISANG BATU (Musa balbisiana)
(viii + 67 pages: 10 tables, 18 figures, and 7 appendices)

The comparison of aroma active compounds between three species of banana which were pisang mas (Musa acuminata), pisang kepok (Musa paradisiaca), and pisang batu (Musa balbisiana) were conducted by extracting it using HS-SPME and be measured in order to know the volatiles and aroma active compounds using GC-MS and GC-O with nasal impact frequency (NIF) method. There were 20, 9, and 3 volatile compounds that were identified in pisang mas, pisang kepok, and pisang batu respectively. The result of GC-O showed that there were three aroma active compound (hexanal, isoamyl acetate, and isobutyl butyrate) which contributed to green, grassy, fruity, banana-like, and sweet aroma detected in pisang mas, three aroma active compounds (hexanal, 2-hexenal, and isoamyl acetate) which contributed to green, grassy, fruity, sweet, leafy, and banana-like aroma detected in pisang kepok, and two aroma active compounds (isoamyl alcohol and isoamyl acetate) which contributed to pungent, sweet, banana-like, and fruity aroma detected in pisang batu. QDA was also done in order to know the sensorial analysis of the banana. The result of QDA showed that banana-like, fruity, and sweet aromas were dominant in pisang mas while it has less intensity in pisang kepok. It also showed that pungent, sour, green, and grassy were the dominant aromas in pisang batu while it has less intensity in pisang kepok. The result of QDA could be supported by the result of GC-MS-O. This leads to the result of the preference choice using hedonic test of banana from the consumer. The taste of pisang mas was preferred the most among the three banana species. The aroma and overall preference of pisang batu was the least preferred while the aroma and overall preference of pisang mas and pisang kepok were not significantly different.

Keywords: pisang mas (musa acuminata), pisang kepok (Musa paradisiaca), pisang batu (Musa balbisiana), aroma, GC-MS, GC-O, QDA, NIF, hedonic test

References: 44 (1981-2013)