

Title Application of electronic-nose for identification ripeness stage of durian

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Abstract

The objective of this studied was to identify the ripeness stage of durian fruit based on change of flavor profile. In this work, an electronic-nose (E-nose) which metal oxide gas sensor was used to determine flavor at unripe, ripe and overripe stage. The response signals of E-nose were analyzed by principle component analysis (PCA). The PCA result showed that durian flavor at unripe, ripe and overripe stages were discriminated from each other. The results suggested that the flavor profile of unripe, ripe and overripe stage were significantly different, and E-nose is able to monitor these differences. Thus, it is possibly that E-nose can be applied to identify the ripeness stage of durian fruit based on change of flavor profile. Durian flavor profile at difference ripeness stages were also confirmed by gas chromatography-mass spectrometry and sensory evaluation.