

Title CaCl₂ affecting quality and aroma volatiles of fresh-cut 'Malay' sapodilla
Authors P. Poonsawat, H. Nimitkeatkai, A. Uthairatanakij, S. Kanlayanarat, C. Wongs-Aree
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Abstract

'Malay' sapodilla is currently one of commercial cultivars in Thailand with tasty flavour. Minimally processed sapodilla begins to be popular and widespread to the retail markets, but rapid softening and discoloration shortens shelf-life. Applications of calcium chloride (CaCl₂) were, therefore, introduced to 'Malay' sapodilla in order to investigate quality changes of fresh-cut fruit. Ripe sapodilla fruit were cut and dipped in 0, 3, or 6% CaCl₂ solutions for 5 or 15 min and all treatments were then stored in clamshell plastic containers at 8°C and 90-95% RH. There was no interaction effect between CaCl₂ treatments and dipping time on quality and aroma volatiles of treated fresh-cut. Dipping in CaCl₂ solution maintained fresh weight and firmness and delayed colour changes of treated sapodilla, compared to a distilled water treatment (0% CaCl₂). However at high concentrations of CaCl₂, there was an evidence of white scale covering the cut surface of treated sapodilla. Hexanal, detected using SPME technique, was predominant in the freshly cut sapodilla while acetaldehyde and ethyl acetate were predominant on day 3 and 6, respectively, without differences in volatile patterns between treatments. In conclusion, CaCl₂ dipping is an alternative way to maintain quality of fresh-cut sapodilla stored at low temperature. Dipping in 3% CaCl₂ for 5 min is sufficient to maintain acceptable quality of treated sapodilla for 6 days at 8°C.