

Title Mechanical Damage of Rose Apple in Packagings
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Abstract

The purpose of this research was to 1) determine postharvest damage of rose apple fruit after transport and 2) comparatively test and evaluate the performance of the current and developed wholesale packaging of rose apple fruit. Methodology included 1) sampling and conducting damage analysis of rose apple of two varieties (Thongsamsri and Toonklao) packed in commercial packaging to various wholesalers around Bangkok metropolitan areas, 2) three kinds of current wholesale packaging (CWR) (i.e., corrugated box, foam box and plastic basket) which were packed with newly harvested, damage-free, uniform size rose apple fruits and tested with a vibration simulator according to the ASTM standard. The two types of developed wholesale packaging (DWR) (i.e., the vertical fruit orientation and the diagonal-horizontal plane fruit orientation) were made up and tested with the same testing procedure as the CWR. Performance of both CWR and DWR was evaluated in term of damage analysis.

Results showed that postharvest damage features mainly abrasion and bruising. Bruising of Thongsamsri fruit after transport of retailers and wholesalers were 1.20% and 0.64% respectively while abrasion were 1.30% and 0.74% respectively. For Toonklao, bruising of retailers and wholesalers were 1.21% and 0.38%, and abrasion were 1.68% and 0.78% respectively. Either abrasion or bruising of the packaged rose apple was highest in the top layer of the package. The developed wholesale packaging of the diagonal horizontal plane fruit orientation exhibited the smallest damage. The related bruising and abrasion damage were 0.37% and 0.01% respectively.