

# Effects of Harvesting Methods on The Mechanical Injury of Papaya Fruit (*Carica papaya* L. cv. Tainung No2.) through Vapor Heat Quarantine Treatment

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## Abstract

The occurrences of mechanical injury on papaya fruit will cause a great loss of processing cost during exporting to Japan through the procedures of quarantine handling. The objective of this research was to study the effect of harvesting methods on the mechanical injury of papaya fruit through vapor heat treatment. The results of our investigation were harvesting methods had significant influence on the proportion of mechanical injury of papaya fruit. The effect of harvesting treatments on proportion of mechanical injury was that papaya fruit was picked with hands or though the pedicel cut, and transferred into the 'Lucky-bin', as well as picked by hand then placed into shoulder bag and arranged in the field plastid bin with single layer may reduce the incidence of fruit mechanical injuries. Otherwise, picked by hand then arranged into the field plastid bin with double layers or picked by 'harvested-pole' then transferred into the 'Lucky-bin' may increase the incidence of fruit mechanical injuries. The effect of harvester on percentage of mechanical injury, our inference is possibly that the speed of harvesting was excessively quickly and it may be the major causes of fruit mechanical injuries. Based on the above findings, several recommendations are made for Japan exported papaya harvesting and postharvesting operations. Training is required for harvesting and handling. Fruit should be carefully picked with hands or though the pedicel cut, and placed in the shoulder bag with 23 cm or longer size immediately. Packed fruit should be laid on the harvesting basket without piling or put in "Lucky-bin" directly. With this procedure, the incidence of fruit mechanical injury can be effectively reduced.

Key words: papaya, harvest, harvester, mechanical injury

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