STUDY ON THE EFFECT OF INNER LAYER AND FILLER MATERIALS TO QUALITY OF TOMATO FRUIT (Lycopersicon esculentum Mill.) IN WOODEN BOX PACKAGE DURING TRANSPORTATION

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ABSTRACT

The purpose of this study were to examine the amount of mechanical damage of tomatoes in each package after transportation simulation, the effect of inner layer and filler materials to the damage of those tomatoes during transportation, and determine to the best among used inner layer and filler materials for tomatoes transportation. The study was carried out on February to April 2011 in TPPHP Laboratory of IPB. There were five packages used in this study which consist of four packages for treatment and one package for control. The four treatment packages were package with shredded newspaper filler only, package with dried banana leaves filler only, package with inner layer and shredded newspaper filler, and package with inner layer and dried banana leaves filler. The material of inner layer was a paper that usually used for packing of cement. All of the packaged were simulated on the road in the Sub’urb condition (frequency 3.23 Hz, amplitude 4.75 cm for vertical vibration, during 80 minutes) so the path length (distance) equality was 106.16 km. The package with inner layer and dried banana leaves filler material have the highest mechanical damage there is 96%. Then followed by the package with dried banana leaves only, the package with inner layer and shredded newspaper filler material, and the package with shredded newspaper only, those are 97%, 27.53%, and 25.20% respectively. On the other hand, the package for control (no treatment) have the mechanical damage in amount of 53.79%. It can be concluded that the tomatoes packaged by shredded newspaper filler only has a lowest mechanical damage, so this package should be a good package for the distribution transportation of tomatoes in wooden box.

Keywords: tomatoes, mechanical damage, inner layer, filler material, packaging