

Title Effect of variety and size on the mechanical damage of watermelon

Author Hassan Sadrnia, Ali Rajabipour, Ali Jafari, Arzhang Javadi and Younes Mostofi

Citation Abstracts Book, 6th International Postharvest symposium, 8-12 April 2009, Antalya, Turkey.
256 pages.

Keyword Variety; size; watermelon

Abstract

A large percentage of fruits and vegetables are wasted each year due to mechanical damage during journey from field to consumption. Therefore, It is requires to protect fruits from the loads that cause bruise or failure. This research performed to determine and compare mechanical behavior of different varieties and sizes of watermelon on static load condition in order to obtain parameters used in harvest, handling. transportation and storage. A statistical factorial experiments in the form of completely randomize design (2x 3x2) with five replication was used to determine mechanical behavior of entire watermelon such as failure force, failure deformation and rind thickness. The results were analyzed by SPSS V.9 software. It is found that lure force is affected by direction compression. Failure force at longitudinal direction is less than transverse direction while variation size is not significantly affected failure force and failure deformation. Also results showed failure force and failure deformation are significantly affected by variety. Mean failure force in Charleston Gray and Crimson sweet are respectively 1.1 KN and 1.8 KN. Investigation rind thickness in different varieties and sizes of watermelon showed that five millimeter increasing in rind thickness can increase failure force up to 70%.