Title Evaluation of effects of size, variety and storage time on physical and mechanical properties of kiwifruit

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Abstract

Various factors such as biological and environmental factors, harvest method as well as type and length of storage influence characteristics of agricultural products. This is particularly true for fruits and entails considerable economic consequences. The present study was undertaken to investigate the influence of fruit size, variety and length of storage time (at 0°C and relative humidity of over 90%) on soluble solids content, pH, moisture content and two mechanical properties i.e. firmness and penetration energy of kiwifruit. Using factorial experiment with Completely Randomized design, effect of independent factors including storage time (0, 6 and 12 weeks), fruit size (small and large), and variety (Monty and Hayward) on measured properties of kiwifruit were investigated. Results showed that storage time and crop variety had significant effects on the measured properties. Soluble solid content and pH values increased while firmness and penetration energy decreased in both varieties with increasing storage time. Storage time (12 weeks) had no significant effect on fruit Moisture content. It was also shown that the Hayward variety could be stored longer than the Monty variety. Therefore, in order to increase storage time of fruits, sorting on the basis of variety and size before storage is recommended.