

Title Post-harvest physico-mechanical properties of orange peel and fruit
Author Krishna K. Singh and B. Sreenivasula Reddy
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Abstract

The post-harvest physico-mechanical properties data of fruits and vegetables are important in adoption and design of various handling, packaging, storage and transportation systems. Physico-mechanical properties namely, orange peel tensile strength and cutting energy and fruit color, weight loss, bioyield point, firmness, puncture force and cutting energy were determined with respect to storage period under ambient and refrigerated conditions. Peel tensile strength, modulus of elasticity and cutting energy decreased with storage period in both ambient and refrigerated conditions. The color index of orange followed a fourth-order polynomial equation during storage. At the end of 17 days storage, the fruit cumulative weight losses in ambient and refrigerated conditions were 19.4% and 7.3%, respectively. Bioyield point, firmness, puncture force and cutting energy of orange fruits decreased with respect to number of days of storage. The firmness of orange fruit was significantly higher in stem-calyx axis in vertical position than that in horizontal position.