

Title Quality of fresh-cut 'Khake Dam' and 'Red Maradol' papayas as affected by low temperatures storage

Author J. Poubol, P. Kakaew and S. Kanlayanarat

Citation ISHS Acta Horticulturae 858:105-109. 2010.

Keyword microbiological quality; physico-chemical properties; water-soaked appearance

Abstract

The changes in physico-chemical properties and microbiological quality of fresh-cut 'Khake Dam' and 'Red Maradol' papayas were determined during storage at 4, 10, and 13°C. Total soluble solid, titratable acidity, total ascorbic acid, firmness and microbial counts were determined after slicing and after 2 d of storage at low temperatures. Total soluble solid content slightly decreased in fruit of both cultivars irrespective of temperatures, whereas titratable acidity, total ascorbic acid and firmness increased regardless of low storage temperature. Respiration and ethylene production rates of both cultivars ranged between 1.1 to 4.2 mg kg⁻¹ h⁻¹ and 0.07 to 1.3 µl kg⁻¹ h⁻¹, respectively. Water-soaked lesions occurred on both cultivars and reached marketability thresholds on day 2 at all storage temperatures. Mesophilic aerobic bacteria, coliforms, and fungi counts of fresh-cut fruit of 'Red Maradol' just after slicing were less than those of 'Khake Dam'. All microbial counts increased in both cultivars during storage. A storage temperature of 4°C inhibited ethylene production and delayed microbial growth of both cultivars, whereas it adversely affected water-soaked appearance of 'Red Maradol' fruit. Therefore, the optimum storage temperature for fresh-cut papaya is dependent on cultivar.