

Title Postharvest quality of three tomato cultivars
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Abstract

During the post-harvest life many biochemical changes occur affecting quality. These changes are due to many factors including the cultivar. In tomato, there are marked differences among cultivars regarding the duration of their post-harvest life. "Long Shelf Life" cultivars are characterized by a high firmness throughout the post-harvest period, but their organoleptic characteristics are not optimal. The aim of this study was to characterize changes in various parameters of fruit quality in three tomato cultivars. The experiment was conducted in a greenhouse (5,000 m²) during 2006-2007 in Southeast Spain. Fruits of cvs. Daniela, Rambo and Genma were harvested at turning stage. They were selected in homogeneous lots and an initial analysis was performed on 20 fruits per cultivar to assess fruit quality. The fruits were conserved at 12°C (±1°C) and 90% relative humidity. Every 7 days a batch of 20 fruits per cultivar was analyzed to determine refractive index (RI), firmness and glucose and fructose contents. At the same interval, another batch of 20 fruits was maintained at 20°C for 48 h to simulate conditions for marketing, after which their quality parameters were analyzed. At the time of harvest no differences were found for firmness, while R.I., glucose and fructose content were higher for cv. Rambo. The fruits of 'Daniela' were firmer than the rest and had a longer post-harvest life. 'Daniela' is a long life cultivar, which softens slowly. The soluble solids content declined gradually over the days of conservation. 'Daniela' fruit had a lower R.I., a sign of its low organoleptic quality and flavour. This gradual decline of R.I. during cold storage is normal and in principle is attributed to the phenomenon of respiration contributing to the consumption of sugar, the main component of this quality parameter. However, no significant differences were found among glucose and fructose contents during storage.