

Title A comparative study of shelf-life performance of two kiwifruit cultivars in relation to maturity and nutritional quality

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Abstract

'Hayward' is the predominant kiwifruit (*Actinidia deliciosa* C.F. Liang and A.R. Ferguson var. *deliciosa*) cultivar in international trade whereas the 'Tsachilidi' is a new variety developed and released recently in Greece with good attributes and possibilities for a high commercial-scale production. Therefore, the objective of this work was to study the shelf-life and antioxidants performance of 'Hayward' and 'Tsachilidi' kiwifruits. Commercially-mature 'Hayward' and 'Tsachilidi' kiwifruits were obtained from orchards in the region of Imathia (North Greece). Then, the fruits were stored at 0°C for 6 months. After removal from cold storage, the fruit was kept at 20°C and 65-70% relative humidity for 1, 3 and 5 days. Changes in the kinetics of fruit firmness, soluble solids concentration, titration, CO₂ and ethylene production were assessed. Shelf-life did not affect soluble solids contents and titratable acidity in both cultivars. The softening process was remarkable only in 'Tsachilidi' after 5 days of shelf-life. During shelf-life the ethylene production was increased whereas the CO₂ production was decreased in both cultivars. However, there were no significant differences in CO₂ production rates among the cultivars tested. The phenolic and ascorbic acid content, and the total antioxidant activity of fruit extracts were higher in 'Tsachilidi' than 'Hayward' during shelf-life.