

Title Antioxidant capacity, ascorbic acid, total phenols and carotenoids changes during harvest and after storage of Hayward kiwifruit

Author Silvia Tavarini, Elena Degl'Innocenti, Damiano Remorini, Rossano Massai and Lucia Guidi

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Abstract

The influences of harvest time and storage on the quality indices and nutritional content of kiwifruit were evaluated. Antioxidant capacity, ascorbic acid, total phenol content, carotenoids, soluble solids content and flesh firmness were determined in kiwifruit gathered at two different time (T1: 17-11-2005 and T2: 24-11-2005) and stored at 0 °C, for 2 or 6 months (S1 and S2, respectively). At the end of the cool storage, fruits were maintained for a week at 25 °C (S1 + 7d and S2 + 7d).

The flesh firmness was reduced at the end of cool storage and the soluble solids content significantly increased, for exception of fruits harvested at T2 and stored for 6 months at 0 °C and a week at ambient temperature (S2 + 7d). Some nutritional characteristics such as vitamin C and carotenoids were higher in fruits gathered at T1 but these parameters were strongly influenced by storage, with a general decrease at the end of the long cool storage (6 months). Differently, no influence of long storage was observed in the fruit collected at T2 time. The maintenance for a week at room temperature, after long cool storage, determined an improvement of nutritional characteristics of kiwifruits. In conclusion, fruits harvested at T2 seem to improve their quality after a long storage (6 months) because they reach nutritional values similar or higher than those recorded in fruits at the harvest time. In spite of these positive results, these fruits showed a reduction in organoleptic characteristics which could negatively influence the fruit marketing. The obtained results underline the important role of the pre- and post-harvest factors on the qualitative and nutritional characteristics of kiwifruits.