

Title Changes in antioxidant activity of radicchio during storage

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Abstract

Experimental and epidemiological studies indicate that a diet rich in fruits and vegetables has a positive effect on human health by reducing incidence of several types of cancer and heart diseases. These benefits on health are correlated with high concentrations of antioxidants compounds such as phenolics and ascorbic acid. The objective of this study was to determine antioxidant activity as well as total soluble phenols and ascorbic acid content of two radicchio cultivars ('Rosso di Chioggia' and 'Rosso di Verona') during storage. Radicchio was stored at 0 °C and >90% relative humidity for 1, 2 and 3 weeks. Ascorbic acid was measured by RQflex reflectometer, total soluble phenols were determined with Folin-Ciocalteu reagent and total antioxidant activity was determined using DPPH radical scavenging activity. The results showed that ascorbic acid content of both cultivars was low at harvest (<10 mg/100g f.w.) and it slightly decreased during the storage period. In both cultivars, total soluble phenols significantly decreased after 1 week storage (from 1.70 to 1.26 and from 1.73 to 1.27 GAE/g f.w. in 'Rosso di Chioggia' and 'Rosso di Verona' cultivars, respectively), while they remained without significant change thereafter. DPPH radical scavenging activity significantly decreased during storage only for 'Rosso di Verona' cultivar (from 49.77 to 11.24 AEAC/100g f.w. after 3 weeks).