

Title Effect of controlled atmosphere storage on the antioxidant capacity, total phenolics and flavonoids of 'Hayward' kiwifruit

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Abstract

Phenolic compounds are broadly distributed in the plant kingdom and are the most abundant secondary metabolites found in plants. These compounds have many favourable effects on human health such as the lowering of human low-density lipoprotein reduction of heart disease and cancer. In this study, the effect controlled atmosphere storage (CA) on the antioxidant capacity, flavonoids and total phenolic compounds content of 'Hayward' kiwifruit was evaluated. 'Hayward' kiwifruits were CA-stored (2 kPa O₂/5 kPaCO₂) at 0°C for 5 months. The total flavonoid content remained quite constant during storage in both air and controlled atmosphere, while total phenolics was better preserved in CA stored kiwifruits. A decrease in the total antioxidant activity was observed during storage in all treatments. The results showed that there is a significant correlation with total phenolic compounds content and antiradical activity.