Title The quality and antioxidant capacity during storage of sweet cherries are affected by ripening stage at harvest

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Abstract

Cold storage of sweet cherry is the most conventional means to maintain organoleptic fruit quality and delay postharvest losses. However, there is little information about changes in other sweet cherry properties during storage such as development of bioactive compounds with antioxidant activity. Thus, we aimed to determine the development of quality attributes (colour, soluble solids concentration and acidity), bioactive compounds (total phenolics and anthocyanins) and total antioxidant activity (determined separately in hydrophilic and lipophilic extracts) at 3 maturities of 11 important sweet cherry cultivars in Spain. Fruits were stored at 2°C for 16 days and the attributes determined at 4-days intervals and also after 2 days at 20°C (shelf-life). In addition, the individual phenolic and anthocyanin compounds contributing to antioxidant activity were analysed by HPLC-DAD. Important differences existed among cultivars and maturities in final antioxidant activity. Recommendations for the most suitable harvest maturity based on both quality and antioxidant activity are provided.