

The Influence of Postharvest Calcium Application in Hydro-Cooling Water on Physiological and Biochemical Parameters of Sweet Cherries of Kordia and Regina Varieties

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ABSTRACT

The short harvesting season together with the soft texture, limit the availability of high quality sweet cherries on the market for longer period. In order to have high quality fruits, it should be applied by farmers in the orchard, but has a higher absorption rate while application in the postharvest hydro-cooling water. The aim of following study was to investigate the influence of calcium chloride (CaCl_2) added to hydro-cooling water on physiological and biochemical parameters of Kordia and Regina sweet cherry varieties. The research was carried out in 2020. The tested CaCl_2 concentration in water at 0°C was 0,2%; 0,5%; 1,0% and 2,0% where the sweet cherries were immersed during 5 min. After hydro-cooling, fruits were stored in modified atmosphere packages produced by Stepac, Israel for 2 and 4 weeks. It was established the gases and atmosphere balances in packages and the organoleptic, physiological and biochemical parameters of fruits. The increase of Ca content in hydro-cooling water in comparison to control showed improvements in weight stability, acidity, firmness, soluble solid content and vitamin C with the best results at 0,5% and 1,0% CaCl_2 content. Pedicel browning was reduced by CaCl_2 at 0,2% and 0,5%, but presented higher effect at 1,0% and 2,0%.

Keywords: sweet cherry, postharvest, hydro-cooling, calcium, shelf life, quality, pedicel browning