

Title Effects of an innovative dipping treatment on the cold storage of minimally processed *Annurca* apples

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Abstract

The effect of trehalose as an edible coating on minimally processed *Annurca* apple slices was studied during cold storage. The edible coating was prepared by dipping the fruit in a solution containing trehalose at 0.8%, sucrose at 1.0% and sodium chloride at 0.1%. During storage at 6 °C the following parameters were monitored: weight loss, colour (hue angle (h°) and whitening index (WI)), firmness, malic and ascorbic acids, polyphenol content, microstructure by scanning electron microscopy (SEM) and microbial count. The results showed that such a coating reduced the browning phenomena; in fact the WI and h° values were significantly lower in coated samples than untreated ones. Moreover, decreases in weight loss and in the reduction of organic acids were observed in coated samples. Electron microscopy slides of the cut tissue showed how the coating worked.