

Title Effectiveness of antibrowning agents applied by vacuum impregnation on minimally processed pear

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Abstract

Different isotonic solutions containing antibrowning compounds (EDTA, 4-hexylresorcinol, citrate and ascorbate), combined or not with calcium lactate, were applied to minimally processed (MP) pear samples (cv. Blanquilla) by using the vacuum impregnation (VI) technique in order to reduce enzymatic browning. Vacuum impregnated samples were packaged and colour, mechanical properties, development of respiration gases and volatiles in the package headspace and microbial counts were monitored throughout storage at 4 °C. VI treatments with ascorbate solutions and calcium lactate were the most effective to extending the shelf life of MP pear. These treatments caused fewer changes in colour, mechanical properties and volatile composition and slowed microbial growth. Calcium lactate led to a better preservation in terms of mechanical parameters but had minor effects on colour development during cold storage.