

Title Changes in physiology and quality of peach fruits treated by methyl jasmonate under low temperature stress

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Abstract

The quality and physiological changes were determined in peach (*Prunus persica* L. cv. Jiubao) fruits in low temperature storage with or without methyl jasmonate (MeJA) treatment. Peach fruits stored for 3 weeks at 5 °C and following 3 d shelf life intervals at 20 °C appeared chilling injury (CI) symptom, expressed as flesh browning. MeJA treatment decreased the CI index, which was possibly attributed to higher activity of peroxidase and lower content of phenolic compounds than that without MeJA treatment. Moreover, MeJA treatment not only enhanced the rate of SSC/TA in peach fruits by mainly restraining the decrease of the SSC in peach, but also affected the degradation of cell wall, perhaps by regulation of cell wall modifying enzymes and the calcium content in cell wall of flesh. The results suggested that MeJA treatment was beneficial for maintaining quality owing to reducing chilling injury of peach fruits under low temperature stress.