Suppression of fruit softening and extension of shelf life of pear by putrescine application

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Abstract

Softening during storage limits the shelf life of pear fruit (*Pyrus* spp.) which lead to remarkable losses. To develop an effective technique to reduce softening and maintain quality of pear fruit, the effect of postharvest dip treatment of putrescine (PUT) @ 1 mM, 2 mM and 3 mM was investigated on pear fruit cv. Punjab Beauty. The 2 mM and 3 mM PUT treatment effectively reduced the weight loss (WL), retained higher firmness, suppressed the degradation of starch and titratable acidity (TA) and maintained the higher quality of fruit. Moreover, these treatments suppress the activity of cell wall degrading enzymes pectin methyl esterase (PME) and cellulase concomitant with reduction in fruit softening than in control. The 2 mM and 3 mM PUT exhibited the lower spoilage of fruit. These results suggest that, 2 mM and 3 mM PUT suppressed the activity of cell wall degrading enzymes and maintained higher sensory quality (SQ) with prolongation of shelf life of 12 days under ambient conditions.