

Application of postharvest putrescine treatment to maintain the quality and increase the activity of antioxidative enzyme of cucumber

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Scientia Horticulturae 239: 210-215. (2018)

Abstract

Cucumber is easy to decay caused by oxidative reactions and inactivation of enzymes during storage time. It is well-known that putrescine (PUT) can be used for prolonging the storage time of vegetables and fruits. The effects of PUT treatment on cucumber fruit have been investigated. PUT at 4.0 mM was applied to cucumber stored at 20 °C with 85–90% RH for 10 days. The results showed that the cucumber of PUT treatment had lower weight loss and malondialdehyde (MDA) content. It also inhibited the decrease of total soluble solid (TSS) and vitamin C content. The sensory quality including firmness and color was also enhanced by PUT treatment. Moreover, the activity of peroxidase (POD), ascorbate peroxidase (APX), catalase (CAT) in PUT treatment was improved during storage time. These results suggest that PUT treatment is a promising method to maintain the quality of cucumber fruit at the storage temperature of 20 °C.