

Title Hypobaric treatment reduces fungal rots in blueberries
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Abstract

Postharvest fungal rot is one of the significant issues reducing fresh produce quality. Conventionally, fungicides may have been used to minimise fruit decay. However, increased concerns over the negative effects of fungicide application compelled scientists to search for alternative options to extend storage life of fresh produce. While temperature control reduces the chances of fungal rots, a physical treatment at a time soon after harvest may further increase storage life. Previous studies have suggested that a postharvest hypobaric treatment is a potential non-chemical method for the control of fungal rots in some fresh produce. In this study the effect of hypobaric treatment (50 kPa.a, 4 h) on the subsequent rot development and quality of blueberries held at 20°C was assessed. The results obtained show that pre-storage low pressure treatment of blueberries reduced postharvest rot incidence arising from natural infections. In addition, firmness and respiration rate of the fruit were not affected by low pressure treatment. The reduced rot incidence in hypobaric treated fruit has been ascribed to either direct effect of low oxygen; indirect activation of induced resistance; or removal of free water from the surface of the produce. The exact mode of action of hypobaric treatment needs to be further studied. This could eventually facilitate the development of a new cost -effective method of physical treatment for blueberries to reduce postharvest fungal decay.