Title Heat treatments to control white rot (*Botryosphaeria dothidea*) on ´Fuji´ apples

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Abstract

The need to prolong shelf-life after harvest having reduced losses of fruits due to rot incidence resulted in an increased use of agrochemicals over the past few years. Nevertheless, consumer concerns with regards to pesticide residues and the fact that these widely-applied chemicals after harvest have shown some lack of control effectiveness encouraged the search for alternative methods to minimize postharvest decay. Heat treatments to control postharvest pathogens have been tested in many fruit species. In the present work the objective was determine the effect of heat applied with a hot water brush system on the incidence of white rot (*B. dothidea* (Moug.) Ces. & DeNot) on cv. Fuji apples. The apples were artificially inoculated with a 5% potato dextrose solution containing 106 conidia/ml. After inoculation the apples were maintained for 48 h at 28°C and thereafter brushed with hot water at 50, 55 or 58°C for 30 s. After the treatments, the apples were transferred for 17 days to 20°C. The effects of the treatments were determined by visual analysis of the number of decayed fruit and number of lesions on each individual fruit. Applying heat for 30 s on apples with the hot water brush system reduced the percentage of apples showing typical symptoms of white rot as well as reduced the number of lesions on each fruit. Best results were obtained with water at 55 or 58°C.