Title Effects of yeast antagonists in combination with hot water treatment on postharvest diseases of tomatofruit

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Abstract

Hot water treatment (HWT) and two yeast antagonists, *Candida guilliermondii* and *Pichia membranaefaciens* were investigated separately and together for controlling *Botrytis cinerea*, and natural infection in tomatofruit stored at 20 °C. Applied separately, both HWT and antagonists inhibited decay caused by *B. cinerea*, and natural infection. The combination of antagonists and HWT showed better control efficacy. Application of HWT did not affect the growth of *C. guilliermondii* and *P. membranaefaciens* in tomatowounds, while HWT induced significant increase in the activities of phenylalanine ammonia-lyase (PAL), chitinase (CHI) and β-1,3-glucanase in fruit. The mechanism by which HWT enhanced the biocontrol efficacy of the antagonistic yeasts may be related to the elicitation of biochemical defense responses in tomatofruit. The combination of antagonistic yeasts and HWT could be a promising method for the control of postharvest diseases of tomatofruit.