Title Evaluation of the use of chlorine dioxide by fogging for decreasing postharvest decay of fig

Author Ozgur Akgun Karabulut, Kadir Ilhana, Umit Arslan and Canan Vardar

Citation Postharvest Biology and Technology, Volume 52, Issue 3, June 2009, Pages 313-315

Keywords *Ficus carica*; *Botrytis cinerea*; *Alternaria alternata*; Disinfection

Abstract

Postharvest diseases limit the storage period and marketing life of figs. The efficacy of chlorine dioxide by fogging was tested for the control of postharvest diseases of black fig (*Ficus carica* L. cv. Bursa Siyahi). Fruit were fogged with various concentrations of chlorine dioxide in a cold storage unit for 60 min at room temperature. Treated fruit were stored either in air or modified atmosphere bags for 7 d at 1 °C followed by 2 d shelf-life at 20 °C. Fogging at 300–1000 μL L^{-1} significantly reduced natural incidence of decay, most of which was gray mold. The efficacies of fogging at 500 and 1000 μL L^{-1} were at the same level and fogging at 1000 μL L^{-1} was superior to that at 300 μL L^{-1} in fruit stored in air. Modified atmosphere packaging did not improve the efficacy of fogging in reducing decay incidence. The epiphytic population on the fruit surface was similarly reduced by chlorine dioxide fogging. All treatments significantly reduced total microorganisms, fungal and bacterial populations in fruit. In addition, microorganisms in the storage atmosphere were significantly reduced. None of the treatments affected the visual quality and taste of fruit.