

Abstract

UV-induced resistance of tomato to gray mold during storage was studied. Hormic UV dose of 3.7 kJ/m^2 induced resistance gradually. Fruits were susceptible to *B. cinerea* when inoculated immediately after irradiation. The phytoalexin rishitin accumulated in treated tissue reaching a maximum 15 days after treatment. A significant correlation could be established between rishitin accumulation and lesion size in UV-treated tissue specially when rishitin reached inhibitory levels prior to inoculation. Treatment and post-treatment storage conditions affected both rishitin accumulation and disease resistance. Treatment of the fruits at the green mature stage with the hormic dose applied at a fluence rate of $1.23 \text{ kJ/m}^2 \cdot \text{min}$ and storage at 13 C and $95\% \text{ RH}$ favored higher levels of rishitin accumulation and was more effective in controlling gray mold. It was concluded that initial susceptibility was presumably associated with oxidative stress, and that the observed resistance was related to the activation of defense related genes, and specially with accumulation of rishitin to inhibitory levels.