

Title Salicylic acid alleviated pathogen-induced oxidative stress in harvested sweet cherry fruit
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Abstract

The role of exogenous salicylic acid (SA) in regulating an antioxidative defense response of sweet cherry (*Prunus avium* L. cv. Hongdeng) fruit inoculated with *Penicillium expansum* was investigated by immunodetection of carbonylated proteins. After inoculation with *P. expansum*, carbonylated proteins accumulated to a lesser extent in SA-treated fruit than in control fruit, ranging from molecular mass 29–45 kDa. Higher activities of catalase (CAT), glutathione peroxidase (GPX), chitinase and β -1,3-glucanase were observed in SA-treated fruit. Similarly, the expressions of *CAT*, *GPX* and *β -1,3-glucanase* genes were also stimulated by SA treatment. Moreover, 2 mM SA did not inhibit *P. expansum* growth *in vitro*. These results indicate that SA activated antioxidant defense responses of sweet cherry fruit, which may play a role in the resistance against *P. expansum*.