

## Abstract

Pre-harvest treatments with 2 mM salicylic acid (SA) and 0.2 mM methyl jasmonate (MeJA) significantly reduced lesion diameters on sweet cherry fruit caused by *Monilinia fructicola* compared with control post-harvest treatments. Pre-harvest treatment of sweet cherry with SA or MeJA induced  $\beta$ -1,3-glucanase, phenylalanine ammonia-lyase (PAL) and peroxidase (POD) activities during the early storage time. The efficacy of inducing resistance in sweet cherry fruit pre-harvest-treated with SA or MeJA to *M. fructicola* was better than that for fruit with post-harvest treatments, especially, at 25 °C. Activities of  $\beta$ -1,3-glucanase and PAL in SA- or MeJA-treated cherry fruit stored at 25 °C for both pre- and post-harvest treatments were significantly higher than those in fruit stored at 0 °C. SA with a concentration of 2 mM showed direct fungitoxicity on *M. fructicola* and significantly inhibited mycelial growth and spore germination of the pathogen in vitro. MeJA at 0.2 mM had little inhibitory effect on mycelial growth and spore germination of *M. fructicola*. The fruit treated with MeJA pre-harvest expressed higher activity of  $\beta$ -1,3-glucanase and PAL than fruit treated with SA and the control during the early storage time.