Title Effects of multiple applications of chemical elicitors on *Botrytis cinerea* infecting Geraldton waxflower

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Abstract

Geraldton waxflower is susceptible to postharvest floral abscission caused by *Botrytis cinerea* infection. Pot- and field-grown waxflower cv. Mullering Brook plants and/or their harvested sprigs were spray treated with three known host plant defence elicitors, methyl jasmonate (MeJA), benzothiadiazole (BTH) or silicon (Si), and challenged with *Botrytis cinerea* after harvest. The efficacy of multiple MeJA, MeJA combined with BTH or Si and combined preand postharvest MeJA treatments in suppressing *B. cinerea* disease and floral abscission was assessed. Preharvest foliar applications of MeJA (1000 μM; two or four times), MeJA combined with BTH (150 mg/L) and MeJA combined with Si (1500 mg SiO_2/L) generally did not suppress *B. cinerea* development and floral abscission from harvested sprigs. MeJA plus Si applied to pot-grown plants slightly and significantly ($P<0.05$) increased disease incidence and severity and flower fall. However, application of a MeJA postharvest (1000 μM) spray or pre- (1000 μM) plus postharvest (500 μM) MeJA sprays, significantly ($P<0.05$) reduced *B. cinerea* incidence and severity on sprigs from field-grown plants. Overall, the preharvest plus postharvest 1000 μMMeJA spray treatment consistently and significantly ($P<0.05$) suppressed *B. cinerea* infection on flowers from both pot- and field-grown plants. However, there was little or no impact of these treatments on floral abscission. Thus, multiple applications of chemical elicitors do not show promise as an approach to controlling *B. cinerea*-induced postharvest floral abscission in Geraldton waxflower.