

Title Effect of S-carvone on vase life parameters of selected cut flower and foliage species
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Abstract

Insufficient water uptake by cut flowers and foliage species is often due to stem end occlusion and poor stem hydraulic conductance that involve bacterial growth and/or wound healing. S-carvone has putative antibacterial and anti-wound healing activity. S-carvone (0, 0.318 and 0.636 mM) was evaluated as a vase solution for *Acacia holosericea* (Mimosaceae), *Baeckea frutescens* (Myrtaceae), *Chamelaucium uncinatum* cv. 'Mullering Brook' (Myrtaceae) and *Chrysanthemum* sp. cv. 'Dark Splendid Reagan' (Asteraceae). S-carvone was also tested *in vitro* for activity against a vase solution bacterium. S-carvone at 0.318 and 0.636 mM showed significant ($P < 0.05$) positive effects on relative fresh weight, solution uptake and/or vase life for *B. frutescens* foliage and *C. uncinatum* flowering stems, but did not have positive effects for *A. holosericea* and *Chrysanthemum* sp. S-carvone did not suppress vase solution bacterial populations. Moreover, there was no *in vitro* activity at vase solution concentrations against the specific vase water bacterium, *Bacillus cereus*. For the two Myrtaceous genotypes, *B. frutescens* and *C. uncinatum*, S-carvone apparently extended vase life by inhibiting wound healing.