Effects of a surfactant on development of senescence in *Grevillea* 'Sylvia' inflorescences

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Abstract

The surfactant Agral®600 applied as a dip at 0.1 ml L^{-1} effectively increased vase solution uptake by *G.* 'Sylvia' inflorescences, but did not affect longevity. The presence of other chemicals in the dip solution, such as dichloroisocyanurate or methanol, did not reduce surfactant effectiveness in increasing solution uptake, but methanol accelerated abscission and flower opening. Application of surfactant at a concentration of 0.8 ml L^{-1} or higher, reduced inflorescence longevity, and at 1.6 ml L^{-1}, caused loss of fresh weight, abscission, discolouration and wilting. At 0.1 ml L^{-1} or less of surfactant, rate of senescence was similar to that in control inflorescences. Less-mature inflorescences were more sensitive to the surfactant than more-mature inflorescences. There was no effect of the surfactant on structure of the cuticle layer on the abaxial surface of floral trichomes on floral perianths. Increased vase solution uptake induced by the surfactant might result from changes in chemical bonding or cuticle composition rather than the gross changes in cuticle physical structure.