

Title Effect of ethylene and GA₃ on the vase life and postharvest quality of alstroemeria (*Alstroemeria aurantiaca* L.) cut flower

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Abstract

The major problem associated with postharvest quality of Alstroemeria is premature yellowing before senescence of the secondary florets and maintenance of green colour in the leaves. Freshly cut flowering stems of Alstroemeria 'Sunny Rebecca' were placed in glass jars containing solutions of GA₃ at 0, 50, 100 and 150 mg/l and Ethanol at 0, 2, 4 and 6% and arranged in a factorial design with 3 replicates. The effect of treatments on the vase life and quality of Alstroemeria was investigated. Pulsing of flowers with 100 or 150 mg/l GA₃ consistently increased the number of days to full opening of primary florets and delayed the onset of flower senescence as measured by days to 50 % petal fall and days to 50 % leaf yellowing. Continuous treatment of Ethanol at 2% significantly increased the vase life of Alstroemeria cut flowers. Continuous treatment reduced significantly the leaf water content of Alstroemeria cut flowers. Our results indicated that pulsing treatment of GA₃ at 100 mg/l and continuous treatment of sucrose and Ethanol at 2% has the potential to be used as a commercial cut flower preservative solution for delaying flower senescence, prolonging the vase life and enhancing post harvest quality of Alstroemeria cut flowers.