

Title BA and sucrose increase vase life of cut *Eustoma* flowers.
Authors Huang, K. L. and Chen, W. S.
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Abstract

An experiment was conducted to measure the effects of pulse treatments of BA, sucrose, and BA before, after, or with sucrose, on the vase life of cut *Eustoma grandiflorum* flowers. A BA pulse at 50 mg/litre before 4% sucrose promoted the longevity of cut flowers better than other treatments. Simultaneously, sucrose, glucose and mannose concentrations in flowers during vase periods were maintained at higher levels in double pulse treatments than in the single pulses. Ethylene production in flowers 2 days after vase treatment was highest in the BA-treated flowers; intermediate in flowers pulsed with BA before, after, or with sucrose; and lowest in sucrose-treated flowers. Although a BA pulse increased ethylene production over that of the controls, it inhibited senescence in cut flowers. Respiration in flowers pulse-treated with sucrose or with BA before, after, or with sucrose, was significantly higher than that in controls. Results suggest that the vase life of cut *E. grandiflorum* flowers is improved by either BA or sucrose in vase solution and especially when BA was pulsed before the sucrose pulse.