

Title Combination pulse treatment of 1-naphthaleneacetic acid and aminoethoxyvinylglycine greatly improves postharvest life in cut *Eustoma* flowers

Author Hiroko Shimizu-Yumoto, and Kazuo Ichimura

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Abstract

The effects of pulse treatments with 1-naphthaleneacetic acid (NAA), a synthetic auxin, aminoethoxyvinylglycine (AVG), an ethylene synthesis inhibitor, and their combination on the postharvest life of cut *Eustoma* flowers were investigated. Cut flowers with three open flowers and two buds were treated with 5 μM NAA, 1 mM AVG, or a combination of both at 23 °C for 23 h. All solutions including the control were supplemented with 0.5 mL L⁻¹ Legend MK as an antimicrobial compound. The vase life of the inflorescence and the longevity of opened flowers at harvest were extended significantly in AVG alone (12.8 d, 14.5 d) compared to the control (5.6 d, 9.4 d) and NAA alone (7.1 d, 9.8 d). The combination of NAA and AVG (16.1 d, 17.1 d) significantly extended the inflorescence vase life and longevity of opened flowers even longer than AVG alone. In particular, the vase life of the inflorescence was about three times longer in the NAA plus AVG treatment than in the control. Relative fresh weight was obviously greater in the NAA plus AVG and NAA alone treatments than in the control for 12 d. These findings suggest that the combination of NAA and AVG is more effective in improving postharvest life of cut *Eustoma* flowers.