

**Title** Chemical control techniques to maintain or increase qualities of cut flowers  
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#### **Abstract**

Although senescence of *Eustoma* flower concerns ethylene, treatment of STS, which is an ethylene effect inhibitor, shows inadequate effect on the vase life elongation. We found that the treatment of AVG, which is an ethylene biosynthetic inhibitor, elongated the vase life two times longer and temporally increased opened flower numbers than the control. Since AVG may play as auxin biosynthetic inhibitor as well, we studied additional effects of NAA, which is an artificial auxin. We concluded that combinational treatment of AVG and NAA is the best way so far for keeping quality of *Eustoma* cut flower, which elongated the vase life three times longer increasing numbers of opened flower than control. Oriental hybrid lilies represented by 'Casa Blanca' are appreciated by their wonderful fragrance, and however, their strong fragrances often become a cause of unpopularity. *p*-Creosol and *p*-cresol, which are benzenoid compounds, were estimated as causal components of the unpleasant smell although they were minor components among scent compounds of 'Casa Blanca'. Biosyntheses of benzenoid compounds are catalyzed by phenylalanine ammonia-lyase. We applied an inhibitor of the enzyme in a post-harvest manner and decreased emitted amounts of benzenoid compounds including *p*-creosol and *p*-cresol as well as, interestingly, terpenoid compounds. The smells of 'Casa Blanca' cut flower weakened to pleasurable level to successfully increase quality of the flower.