**Title** Postharvest quality of cut lily flowers

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**Abstract**

This paper reviews the literature on the postharvest quality of cut lily inflorescences and highlights the need for more information. The main symptoms that limit the length of vase life are abscission of floral buds, lack of flower opening, tepal wilting, and leaf yellowing. Floral bud abscission is regulated by ethylene and can be prevented by treatments with inhibitors of the ethylene receptor. Lack of bud opening is also mimicked by ethylene treatment. It is alleviated by treatment with sugars. These might reduce ethylene effects or act as a source of energy. Depending on the cultivar, tepal wilting is not or is only slightly affected by ethylene. The time to tepal wilting is positively correlated with the levels of endogenous sugars. Leaf yellowing is apparently not affected by ethylene, and is aggravated by the inclusion of sugars in the vase solution. A treatment with hormones, in particular $GA_{4+7}$ and benzyladenine, can prevent or alleviate the negative effects of sugars on leaf quality.

A relatively short period of cold storage often drastically increases the number of floral buds that fail to open. Cold storage also hastens tepal wilting, induces or increases leaf yellowing, and promotes bud abscission. Several lily hybrids, therefore, seem chilling-sensitive. Some of the negative effects of cold storage can be alleviated by sugars, and others by $GA_{4+7}$, with or without benzyladenine.

The lack of ethylene sensitivity of tepal senescence, in several, but not all, cultivars, implies that pollination will also not affect senescence. It would be interesting to test this hypothesis in a few cultivars. It is also not clear if ethylene (or pollination) has an effect on tepal abscission in cut lilies. More data are also needed with regard to chilling injury. Pulsing with sugars might, for example, reduce the degree of injury.