



Lisianthus

Recommendations for Maintaining Postharvest Quality

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Description

Introduced into cultivation from the prairies of Texas, production of lisianthus (*Eustoma grandiflora*) has increased dramatically in recent years, spurred by the development, largely in Japan, of excellent cultivars in a wide range of colors, and single and double forms. Properly pretreated, or with an adequate vase preservative, the flowers are long-lived in the vase. Each stem bears in excess of 8-10 buds and flowers, and several of the larger buds will open in the vase, if the flower is supplied with supplementary sugar.

Maturity

Stems are harvested when at least one flower is open. Some growers allow flowers to develop further so that the buds are more advanced, then remove the older flowers, leaving one or two flowers per stem. Although it takes extra labor, removal of immature shoots whose buds will not develop improves the display quality of the flower.

Grading & bunching

There are no formal grade standards for lisianthus, but leaf mines and damage to the flower are obvious quality defects. Flowers are bunched, depending on market requirements into 5's or 10's. Lisianthus is sensitive to gravity, and stems will bend upwards if the flowers are held horizontal at ambient temperatures. For this reason, lisianthus that will not be properly pre-cooled is often packed and transported in vertical hampers.

Chemical solutions

Lisianthus is sensitive to some of the biocides in commercial preservatives, which cause browning of the stems. In our experiments, 200 ppm $\text{Al}_2(\text{SO}_4)_3$ and 50 ppm hypochlorite (1 ml Clorox/liter of water) were excellent biocides for lisianthus. Although researchers have shown a slight reduction in life of lisianthus exposed to ethylene, the effect is minor, and anti-ethylene treatments (STS or EthylBloc) are of little benefit. We found that lisianthus flowers were greatly improved by treatment with relatively high concentrations of sucrose - 3% in the vase solution, or a pretreatment for 24 hours with 12% sucrose and a biocide. Given these solutions the flowers opened more buds with improved color, lasted longer, and the pedicels (the stalks under the flowers) became much more rigid.

Storage

Flowers for storage should be of highest quality, absolutely free from pests and diseases. Place them at 0.5°C (33°F) in a box lined with polyethylene and newspaper.

Ethylene sensitivity

Lisianthus flowers are only slightly sensitive to ethylene, which will cause earlier senescence of flowers that were mature at the time of ethylene exposure.

Response to CA

There have been no reports of beneficial effects of CA on lisianthus flowers.

Freezing injury

Freezing may occur at temperatures below -0.5°C (31°F). Symptoms include water-soaking and collapse of leaves and florets.



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Produce/ProduceFacts/Orn/lisianthus.html updated July 14, 2000