

**Hutchinson, M.J.,** Muchiri, J.N. and Waithaka, K. **2011.** Cold Storage and Flower Keeping Quality of Cut Lisianthus (*Eustoma grandiflorum* L.). Botswana Journal of Agriculture and Applied Sciences Vol. 7(2): 4-11.

**ABSTRACT:**

This study was carried out to investigate suitable postharvest storage and simulated shipment procedures for Lisianthus (*Eustoma grandiflorum* L.) cut flowers. The post-storage performance of cut flowers was significantly influenced by storage method as well as the duration of cold storage at 2°C. The vase life of cut Lisianthus flowers was 27 days with 79% floret opening. Six days of cold storage drastically reduced the vase life, floret opening and overall post-harvest quality of cut stems. Wet-storage for 6 days reduced flower vase life by 54% and floret opening by 39%. Dry storage for the same duration decreased flower vase life by 34% and floret opening by 32%. While dry stored cut flowers remained at the beginning flower stage (1 floret open), those stored wet had progressed up to stage 2.5 (2½ florets open). In addition, the wet-stored cut flowers showed a corresponding increase in fresh mass. The dry-stored cut flowers on the other hand had lost substantial mass at the end of cold storage. Negative geotropic bending of cut flowers was strongly influenced by packaging orientations as well as storage duration at 2°C. The flower pedicels were observed to be gravity-sensitive sections of cut Lisianthus. Cut inflorescences packed vertically did not record any measurable bending whereas the flower pedicels of those packed horizontally had a curvature of more than 50° after 6 days. The results from this study indicate that Lisianthus cut stems can be dry-stored for not more than 4 days and packaged vertically for enhanced postharvest handling during marketing and shipment.