

***Gloriosa superba* L.: An evaluation of cut flower performance in cold storage**M P Hettiarachchi^{1*} and J Balas²¹Dept. of Crop Science, Faculty of Agriculture, University of Ruhuna, Matara, Sri Lanka²Dept. of Applied Plant Sciences & Plant Biotechnology Group - Horticulture, Fruit & Wine Growing, Planting Design, University of Natural Resources & Applied Life Sciences, Gregor Mendel Street, 33, A-1180, Vienna, Austria

The effect of cold storage on the vase life and quality of freshly harvested cut flowers of *Gloriosa superba* L. (Glori Lily/Climbing Lily) was investigated. The vase life and fresh weight of gloriosa inflorescences were significantly affected by storage temperature. There was a significant difference in flower quality between "dry" inflorescences stored in polythene bags and "wet" storage within a preservative solution ('Standard Vase Solution'). Wet storage (4 °C for 7 d) of the fully open gloriosa flowers markedly improved flower keeping quality. Chlorophyll fluorescence values (F_0 , F_m and F_v) increased up to the 3rd day and then decreased over the vase period. Compared to other treatments, flowers kept at 4 °C (wet storage) for 7 days maintained a higher chlorophyll fluorescence yield (0.76) during vase period. There was a significant decrease of chlorophyll fluorescence yield with increase of storage temperature. It was observed that this is a positive influence of L^* and hue angle to vase life and fresh weight of flowers during vase period. However, there was no clear relationship between chroma value and vase life or fresh weight. Although visual quality could be maintained for up to 10 days in cold storage at 4 °C, flower quality decreased notably after 7 days. Results indicated that wet cold storage at 4 °C for 7 days had the potential to delay inflorescence senescence, prolonging vase life and postharvest quality of *Gloriosa* cut flowers.

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