

**Title** Effect of different storage temperature on postharvest quality of ‘Luo Yang Hong’ tree peony cut flower

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### **Abstract**

Tree peony is a well-known traditional flower in China and is of high potential market value. A large production base of tree peony cut flower has been built in China, however many problems exist in the postharvest handling, and optimum conditions for long term storage and transportation are still unresolved. In order to identify the most suitable storage condition and to better understand the mechanism of postharvest senescence of tree peony cut flower, the effects of different storage temperatures on postharvest quality and physiological changes in ‘Luo Yang Hong’ tree peony cut flower were investigated. Branches with flowers at the bud stage were stored at two temperatures of  $T_1$  ( $2\pm 2^\circ\text{C}$ ) and  $T_2$  ( $6\pm 2^\circ\text{C}$ ) for 49 days. During storage, flowers were removed at 7-day intervals for measuring changes during vase life, flower opening index, fresh weight loss, electrical conductivity (EC) and MDA content during vase life. ‘Luo Yang Hong’ cut flowers stored at  $2^\circ\text{C}$  for 21-days had a longer vase life, and were able to open normally even after 49 day’s storage, than flowers stored at  $6^\circ\text{C}$  that were unable to open normally after 35-day’s storage. Improved postharvest quality was associated with less fresh weight loss and lower EC and MDA content in cut flower petals.