

Title Effect of dry and wet storage at cool temperatures on the post-harvest performance of *Ranunculus asiaticus* L. flowers

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Abstract

A study was undertaken to assess the effect of different storage temperatures on senescence and postharvest performance of isolated flowers of *Ranunculus asiaticus* L.. The main aim of the work was to develop a cost-effective storage protocol to reduce the postharvest losses and to bring out the transportation of cut flowers of *R. Asiaticus*. The flowers were subjected to two different storage treatments, dry storage and wet storage, and their postharvest performance was compared under laboratory conditions. For this purpose, the buds were harvested at 8:00 AM at loose bud stage (Stage II of flower development). The harvested buds were cut to a uniform size of 15 cm and processed for dry or wet storage. For dry storage, the buds were packed after wrapping them in moistened filter papers and kept at 5°C and 10°C. For wet storage, the buds were held in distilled water in separate glass beakers kept at 5°C and 10°C, respectively. A separate set of buds each for dry and wet storage was kept at room temperature (15±2)°C. After 72 h storage, the buds were kept at room temperature in distilled water. The average life of an individual flower that opened fully was about 4–5 days. The buds kept under wet storage at 5°C and 10°C for 72 h maintained their premature status, while the buds held at room temperature for 72 h generally bloomed. All the buds stored dry maintained their premature status irrespective of storage temperature. Storage of buds for 72 h at 5°C, followed by transferring to distilled water improved the longevity by about 5 to 6 days. Cold storage treatment before transferring to holding solution improved floral diameter, membrane integrity besides maintaining higher fresh and dry mass of flowers, sugar content, soluble proteins, and phenols. Our results suggested that wet and dry storage of premature buds of *R. asiaticus* for 72 h at 5°C, followed by placing them in distilled water, improved the cut flower longevity and can be used as effective postharvest storage treatments for this beautiful cut flower.

<http://www.springerlink.com/content/fl34n2231t3n4243/fulltext.pdf>