

Title Postharvest handling of nine specialty cut flower species  
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### Abstract

Selected postharvest attributes of nine cut flower species were determined. *Celosia argentea* L. 'Forest Fire' inflorescences were blackened by 2 °C cold storage for 2 or more weeks and *Weigela* sp. Thunb. stems were injured by 1 week of 2–7 °C cold storage. One to two weeks of 2 °C cold storage was useful in extending storage life of *Buddleia davidii* Franch., *Cercis canadensis* L., *Cosmos bipinnatus* Cav. 'Sensation', and *Penstemon digitalis* Nutt. and 4 or 7 °C storage temperature was also effective for *Cercis* and *Penstemon*. *Achillea filipendulina* Lam. 'Coronation Gold', *Celosia*, *Echinacea purpurea* (L.) Moench., *Helianthus maximilianii* Schröd and *Weigela* did not tolerate 1 week or more 2 °C cold storage and should be marketed as soon after harvest as possible. However, if storage is required for *Achillea* and *Celosia*, a 4 or 7 °C storage temperature would also be effective. Increasing storage temperature from 2 to 4 or 7 °C decreased vase life for *Echinacea* and *Helianthus*. Pulsing with 500 mg l<sup>-1</sup> 8-hydroxyquinoline citrate (8-HQC) decreased vase life of *Achillea* but increased vase life of *Helianthus* and *Weigela*. Increasing sucrose concentration from 0 to 4 or 8% decreased vase life of *Celosia* and *Helianthus*, while 0 or 8% sucrose was optimum for *Achillea*.

STS pulsing (1 mM) increased vase life of *Achillea* and *Celosia* stems and exogenous ethylene (0.2 or 1.0 µl l<sup>-1</sup>) applications decreased the vase life of *Achillea* and *Celosia*. *Helianthus*, *Penstemon*, and *Weigela* did not respond to STS but exogenous ethylene applications decreased the vase life and those species should not be exposed to any extraneous ethylene. *Buddleia*, *Cosmos*, *Cercis* and *Echinacea* did not respond to STS and exogenous ethylene applications for a 20 h period had no effect on the vase life indicating that those species are tolerant of ethylene. *Buddleia* and *Cercis* stems harvested with 50% or more of buds open had 100% of buds open at vase life termination.