

**Title** Improving the quality of various *Grevillea* cultivars grown in Israel by postharvest treatments  
**Author** S. Meir, S. Salim, Z. Chernov, T. Zadka, S. Philosoph-Hadas and J. Riov  
**Citation** ISHS Acta Horticulturae 869:197-206. 2010.  
**Keyword** BA; cytokinins; ethylene inhibitors; flower abscission; flower senescence; vase life; sea transport; sugar; TDZ

### Abstract

*Grevillea* (*Grevillea* spp.) is a relatively new cut flower crop of the *Proteaceae* family that is rapidly gaining increased importance to the Israeli growers. The commercial industry of *Grevillea* in Israel (70 ha) is based on various sub-tropical species and cultivars originated in Australia, with *G.* 'Spiderman' being the main cultivar (70% of the *Grevillea* export), due to its relatively long vase life. Vase life of *Grevillea* cut flowers is limited particularly due to rapid senescence and associated wilting, abscission, and colour fading of the inflorescences. Previous reports on treatments with sugars, growth regulators, ethylene inhibitors, and substances that may delay stem end blockage showed limited efficacy in extending *Grevillea* vase life. In this study further postharvest physiological characteristics of cultivars are reported, including ethylene production and respiration rates at different flower developmental stages and during vase life, sensitivity to ethylene, effects of inhibitors of ethylene biosynthesis (aminoethoxyvinylglycine - AVG) and activity (silver thiosulfate - STS or 1-methylecyclopropene - 1-MCP), effects of pulsing with different preservatives and sucrose, effect of provision of sucrose in the vase solution, and effects of cytokinins (benzyladenine - BA and thidiazuron - TDZ) applied by pulsing or dipping. Our results show that the various *Grevillea* cultivars varied in their ethylene production and respiration patterns, sensitivity to ethylene, and responses to preservatives and ethylene inhibitors. However, all the examined *Grevillea* cultivars positively reacted to provision of sucrose in the vase solution and to dipping the inflorescences in cytokinin, with TDZ being more effective than BA. A combined treatment of dipping the inflorescences in TDZ, STS and Rovral enabled sea shipment of *G.* 'Spiderman' cut flowers with extended vase life.