

Title Identifying the storage potential of unrooted shoot-tip cuttings of ornamental species
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Abstract

Unrooted cuttings are typically produced in tropical climates and shipped via air freight to North American and European markets. Shipments usually occur during 3 to 4 days per week, since customers do not desire to receive cuttings on Friday, Saturday or Sunday. Thus, the number of days per week to actually harvest cuttings is limited unless those cuttings can be held in storage prior to shipment. The objective of this project was to identify the storage potential of the following eight ornamental species: *Artemisia xhybrida*, *Angelonia angustifolia*, *Diascia xhybrida*, *Gaura lindheimeri*, *Ipomea batatas*, *Nemesia xhybrida*, *Solenstemon scutellarioides* and *Verbena xhybrida*. Cuttings were harvested from stock plants and placed at 0, 5, 10, 15 or 20 °C for 2, 4, 6 or 8 days and then placed into a simulated shipping environment for two days. A control group of cuttings was not stored and only received the simulated shipping treatment. Roots and shoots were visually rated after three weeks in propagation. *Angelonia* and *Solenstemon* were the least cold tolerant species, e.g., they had damaged tissue after 2 days storage at 0°C. *Angelonia*, *Diascia*, *Gaura* and *Nemesia* were the least heat tolerant species, e.g., they did not perform well in propagation following for more than 2 days of storage at 20°C. While the optimal temperature varied from 5 to 15 °C for each species, all species performed well at this temperature range following 2 to 4 days of storage. This work suggests that cutting suppliers can harvest cuttings every day of the week and ship the cuttings only 1 to 2 days per week. This creates the opportunity for companies to minimize the number of trained cutters that need to be employed and to minimize transportation costs by consolidating orders harvested throughout the week into a minimum number of shipments.