

Title Effect of temperature and storage duration on quality and rooting performance of poinsettia cuttings

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Abstract

The effect of storage temperature on the longevity of unrooted poinsettia (*Euphorbia pulcherrima* Willd. cv. Prestige Red) cuttings was examined. Unrooted cuttings were harvested from stock plants, placed in plastic bags at 0, 5, 10, 15, 20, or 25°C for 2, 4, 6, 8, 10, 12, or 14 days, and then placed on a propagation bench for 21 days. Shoot quality was visually rated (1-5 scale: 1 = dead, 5 = excellent) immediately after storage, after one day in propagation, and at the end of propagation. Rooting quality was also given a visual rating (1-5 scale) at the end of propagation (Day 21). After 24 hours in propagation, chlorophyll fluorescence (Fv/Fm) was recorded for each treatment. Storage longevity was 10 days at 10 or 15°C, 6 days at 5°C, and 4 days at 0, 20 or 25°C. Final cutting quality recorded at Day 21 was closely correlated to the chlorophyll fluorescence values recorded after one day in propagation. Currently, international shipping of unrooted poinsettias typically requires two days via airfreight. This project suggests that trans-oceanic carriers, which take up to 7 days for delivery, may be a feasible alternative shipping method provided that the optimal temperatures (10-15°C) are maintained throughout the postharvest life.