

Abstract

Unroofed shoot-tip cuttings of herbaceous ornamentals for the North American market are typically produced in Central America. The cuttings must be delivered during four week days (Monday through Thursday), since it is undesirable for shipments to arrive on Fridays or weekends. As a result the cuttings must be harvested over a 4-day period (Saturday through Tuesday) to allow for the shipments to be delivered in 48 hours via airfreight. As a result, labor requirements for harvesting the cuttings are unevenly distributed. This situation creates the potential benefit of storing the cuttings prior to shipping, since this would allow for cuttings to be harvested every day of the week. Several experiments were conducted to determine the effect of storage temperature on the potential longevity of unroofed cuttings prior to shipping. Unroofed New Guinea impatiens (*Impatiens hawker* 'Sonic Red') cuttings were placed in sealed polyethylene bags and stored at temperatures ranging from 2.5 to 15 °C for 0 to 13 days followed by 24 hours at 22. °C to simulate typical shipping temperatures. At cool temperatures (7.5 °C and lower), ethylene production increased and leaf abscission occurred after 3 days in storage. Storage for 13 days was possible at 10 and 15 °C without any significant delay in rooting during propagation when compared to unstirred cuttings. Currently, experiments are being conducted to determine the effectiveness of 1-MCP and potassium permanganate sachets for reducing chilling-induced ethylene production and leaf abscission.