Title Pulse treatments to extend the postharvest life of *Ctenanthe setosa* cut foliage

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Abstract

Marantaceae leaves have a contrasting color pattern and a decorative design which are interesting traits for its use as cut foliage. No postharvest research has been carried out on the potential as cut foliage for species of *Ctenanthe*, a member of the Marantaceae. Grey-maranta (*Ctenathe setosa*) is an herbaceous ornamental plant native of Brazil whose cut foliage has potential to be used as new crop product for local and international ornamental markets. The objective of this study was to evaluate pulse treatments to extend the longevity of foliage. The experiment was conducted in a complete randomized design with three replications and eight treatments: distilled water; pulsing cut petioles-ends in citric acid (pH = 2.8/1h); 2% sucrose (4h); 1% sucrose plus 200 mg L^{-1} citric acid (4h); 0.01% Tween® 20 (4h); 100 mg L^{-1} benzyladenine plus 0.01% Tween® 20 (4h); 100 mg L^{-1} gibberellic acid plus 0.01% Tween® 20 (4h); and maintenance of cut petiole in holding solution with commercial sodium hypochlorite (0.5 mL L^{-1}). The senescence symptoms were mainly characterized by leaf rolling and by a decrease in the angle formed between leaf and petiole as a response to water deficit stress. Gibberellic acid or benzyladenine pulse treatments significantly extended longevity (6 days compared to control) and maintained leaves' green coloration and brightness for a longer time compared to control. However, only the benzyladenine plus Tween® 20 pulse maintained leaves in an erect form for a longer time, showing a significantly higher angle between leaf and petiole compared to control. Also, foliage pulsed with benzyladenine plus Tween® 20 showed a significant smallest loss of accumulated fresh mass percentage compared to control by the T test as to parallelism of treatments lines.