

Effect of different pulsing solutions on vase life of *Dieffenbachia maculata* Cut foliage

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Abstract: The effect of selected chemical agents used as pulsing solutions to improve the keeping quality and extend the vase life of *Dieffenbachia maculata* cut foliage had been studied especially when they are used for flower arrangements and interior decorations. Two experiments were conducted to study the impact of different pulsing solutions on vase life of *Dieffenbachia maculata*. In experiment 1, 0.2% v/v of 1.75% of sodium hypochlorite, 0.2% v/v vinegar and 0.2% v/v dish washing detergent, 5% v/v ethanol, 0.03% w/w of CuSO₄ and 0.03% w/w citric acid were chosen as pulsing treatments and distilled water was used as control. In experiment 2, with these preservatives and biocides, 1% of sucrose were supplemented and used as pulsing treatments and 1% sucrose solution was the control. Concentrations of pulsing solutions were selected according to the results of preliminary trial. Each treatment was replicated three times. The results showed that all pulsing treatments had improved the keeping quality and vase life of the foliage comparing to control ones. Among all these treatments, in experiment 1, 0.2% v/v of 1.75% of sodium hypochlorite and in experiment 2, 0.2% v/v of 1.75% of sodium hypochlorite plus 1% sucrose treatment showed best foliage longevity (19, 20days), total volume of solution uptake (15.66, 23.10ml) and relative fresh weight (70.75, 77.99%) respectively. Moreover, these pulsing solution treatments reduced the percentage of weight loss, retarded the bacterial colony formation and kept cut leave without change of colour for long days during their postharvest life. The findings reveal that supplementation of sucrose to the preservatives or biocides as pulse solutions are useful in extending the foliage longevity of *Dieffenbachia maculata*. It has been concluded that 0.2% v/v of 1.75% of sodium hypochlorite plus 1% sucrose solution has the potential to be used as a commercial cut foliage preservative solution to delay foliage senescence, enhance post-harvest quality and prolong the vase life of *Dieffenbachia maculata* cut foliage