

Title Effect of food additives on quality and vase life of *Dendrobium* 'Red Sonia' inflorescence

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Citation Book of Abstracts. International Conference on Quality Management in Supply Chains of Ornamentals. 21-24 February, 2012. Golden Tulip Sovereign Hotel, Bangkok, Thailand.

Keywords bud opening; flower dropping; senescence; vase solution

Abstract

Food additive has been used for inhibiting microbial growth in food industry. Basal stem blockage caused by microorganism hastens flower senescence. The objective of this study was to investigate the effect of food additive on quality and vase life of *Dendrobium* 'Red Sonia'. Inflorescences were put into vase solutions of potassium carbonate at 1.75 and 2.00% or sodium carbonate at 1.50, 1.75 and 2.00%, while distilled water and commercial solution served as the control. They were kept at 25°C under constant light intensity of 10 $\mu\text{mol}/\text{m}^2$ s. Potassium carbonate and sodium carbonate increased bud opening 20-33%, whereas bud opening of inflorescences placed into distilled water and commercial solution were 53.6-63.3%. The commercial solution also increased fresh weight significantly. Inflorescences placed in distilled water had the longest vase life (19.5 days) due to decreased flower dropping (14.3%). The vase life of inflorescences placed in commercial solution, potassium carbonate and sodium carbonate were 14.5, 9-10 and 6-7 days, respectively.