Effects of Sucrose, Thidiazuron, and Benzyladenin on the Vase Life and Quality of 'TOC Red' *Mokar*a Inflorescence

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Abstract

Mokara orchids (*Arachins x Ascocentrum x Vanda*) have potential as specially cut flowers, but the data apparently reported on the postharvest physiology of *Mokara* inflorescence has not been yet defined. 'TOC Red' *Mokara* inflorescences were used in this study. Effects of different concentrations of 1, 5, 10% sucrose only or combined with 250 mg/L 8-HQS + 30 mg/L $AgNO_3$ on cut flowers of 'TOC Red' *Mokara* inflorescence were studied. The results showed that flowers held in 10% sucrose + 250 mg/L 8-HQS + 30 mg/L $AgNO_3$ showed the longest vase life of 16.3 days, while control flowers held in distilled water had vase life of 14.1 days. Effects of thidiazuron (TDZ) concentrations on quality of *Mokara* inflorescences were observed. Inflorescences were pulsed with 0, 1, 5, 10, and 50 µM TDZ for 2 h and held in centrifuge tubes containing distilled water and displayed at 20ºC with 65% relative humidity. The results showed that flowers treated with 1µM TDZ had the longest vase life up to 24.8 days. However, using 50 µM TDZ resulted in an increase of floret wilting and a reduction of vase life.

Comparison of effects of TDZ and BA on vase life and quality of 'TOC Red' *Mokara* inflorescence indicated that flowers pulsed with TDZ gave the best results than flowers pulsed with BA. While flowers pulsed with high concentration of TDZ and BA caused floret wilting and dropping, respectively and reduced vase life. TDZ at low concentrations performed like cytokinin activity and improved overall postharvest quality and longevity in 'TOC Red' *Mokara* inflorescence (24 days compared to 17 days of untreated flowers).

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