Title 1-Methylcyclopropene affects the quality in long-vase life *Dendrobium* 'Red Sonia'

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Abstract

Effect of 1-Methylcyclopropene (1-MCP), in extending the longevity of ethylene-insensitive flowers in *Dendrobium* cv 'Red Sonia, was studied. Pre-treatments with 0 (control), 200 and 500 nl.L⁻¹ I-MCP for 6 hours at 20°C were administered and flowering materials were then transferred to distilled water in an observation room (21±2° C, 70-80% RH, cool-white fluorescence lights for 12 hours). The results showed that 1-MCP significantly prolonged the vase life, the end of which was determined by flower wilting. Pre-treatments with 200 nl.L⁻¹ 1-MCP had the longest vase life of 19.3 days, while flowers of the control had 17.4 days of vase life. Additionally, 1-MCP gave better results in delaying the loss of fresh weight, respiration rate and ethylene production, flower wilt and bud opening compared with the control.