

Title	Effects of Harvesting Stages and Preservative Solutions on Vase-life of <i>Mokara</i> Madame Panne Cut Orchid
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ABSTRACT

Four harvesting stages and five preservative solutions were tested to identify their effects on extending the vase-life and improving the bud-opening of *Mokara* Madame Panne cut orchid grown in Chiang Mai province, Thailand. Two major experiments were conducted at the Department of Horticulture, Maejo University.

In the first experiment, the inflorescences of *Mokara* Madame Panne with 3-4, 5-6, 7-8 and 9-10 opened florets were used as harvesting stage-1 to harvesting stage-4, respectively. The changes in respiration rate, ethylene production, water relation, and total sugar content in florets and flower-stems were studied. Results showed that there were not significant differences in the vase-life (11-13 days) and bud-opening (49-60 %) among the four harvesting stages.

In the second experiment, only harvesting stage-3 (7-8 opened florets) was used. The preservative solutions containing 150 ppm 8-hydroxyquinoline sulfate (8-HQS) + 2% sucrose, 50 ppm aluminium sulfate $[Al_2(SO_4)_3]$ + 2% sucrose, 150 ppm 8-HQS + 50 ppm $Al_2(SO_4)_3$, 150 ppm 8-HQS + 50 ppm $Al_2(SO_4)_3$ + 2% sucrose, and only reverse osmosis (RO) water were evaluated for the same parameters as in the first experiment, except respiration rate and ethylene production. In addition, the change in floret color was also determined. Results revealed that the preservative solution containing 150 ppm 8-HQS + 50 ppm $Al_2(SO_4)_3$ can extend the vase-life of *Mokara* Madame Panne cut orchid significantly for 26 days as compared to the control treatment (19 days). The other preservative solutions, 150 ppm 8-HQS + 2% sucrose, 50 ppm $Al_2(SO_4)_3$ + 2% sucrose and 150 ppm 8-HQS + 50 ppm $Al_2(SO_4)_3$ + 2% sucrose provided the vase-life for 19, 18 and 22.5 days, respectively.

Key words: *Mokara* Madame Panne orchid, harvesting stages, preservative solutions, vase-life