

Postharvest characteristics of two flowering stages of torch ginger (*Etilingera elatior*) inflorescences

ABSTRACT

Torch ginger (*Etilingera elatior*), a flourish in tropical and subtropical climates crop, with extravagant and showy inflorescence may be used as cut flower at each developmental stage. Limited studies have been undertaken to reveal the postharvest performance of this leafless inflorescence, especially at advanced developmental stages. Therefore, the objective of this study was to elucidate the postharvest performance of the torch ginger inflorescence treated with different vase solutions. Inflorescences at two flowering stages i.e., tight bud stage and torch shows stage at about 35 and 58 days, respectively, after emergence from rhizome, were used in this study. Sucrose (20 g L⁻¹), 8-hydroxyquinoline sulfate (8-HQS, 0.1 g L⁻¹) and distilled water were used as vase solution treatment. Postharvest characteristics, including vase life, relative fresh weight (RFW), dry weight, solution uptake rate, respiration and ethylene production rate were evaluated. Results showed that vase life of tight bud stage inflorescence was significantly higher than torch shows stage irrespective of treatments used. In contrast, significantly higher solution uptake rate was shown in the torch shows stage inflorescence. There was no significant difference in dry weight and respiration rate measured. No ethylene was detected in all treated inflorescences throughout the study. Prolongation of vase life was associated with the increase in RFW. Increase of RFW was found in tight bud stage inflorescence but reduction of RFW was shown in torch stage inflorescence at the end of vase life. The decrease of RFW could be due to the breakdown of stored carbohydrates in peduncle for the development of true flowers for pollination purpose. Supplementation of sucrose promoted the opening of true flowers. The use of 8-HQS and distilled water enabled the development of true flowers, but they failed to open. Sucrose treated inflorescences both in tight bud and torch stage showed better postharvest quality compared to 8-HQS and distilled water.