

Sukrit Methaprasit 2012: Postharvest Physiology of Inflorescences and Rhizome Storage of Globba (*Globba williamsiana*). Master of Science (Agriculture), Major Field: Horticulture, Department of Horticulture.

Thesis Advisor: Mrs. Anchaya Mongkolchaiyaphruek, Ph.D. 80 pages.

Globba is an indigenous plant which has a potential as a cut flower for export. However the information concerning postharvest physiology of globba is still limited. Thus, this research was aimed to study the quality and physiological changes after harvest of globba (*Globba williamsiana*) 'Giant Violet Dancing Girl' inflorescences, of plant which were grown under different conditions and to find out the appropriate temperature (10, 15 or 25 °C) for storage of globba rhizomes. The experiments revealed that globba inflorescences with one leaf on pseudostem, from plants were grown in the field and received rain water showed good quality and long vase life compared with the one without leaf and the inflorescences of plants which were grown plastic bags and received water twice a week. In addition, fumigation with 500 ppb 1-MCP for 4 hours prior to 0.5 ppm ethylene treatment had no significant effect on quality and vase life of globba inflorescences. Storage of globba rhizomes at 25 °C increased more weight loss, shriveled rhizomes, ethylene production, respiration rate and changes in starch and sugar contents, which corresponded with increase in activities of α -amylase and vacuolar invertase, than those stored at 10 and 15 °C. Whereas the rhizomes stored at 10 °C had more ethylene production and change in starch content than those stored at 15 °C. Based on the results, 15 °C was the most appropriate temperature for storage of globba rhizomes up to 6 months.

Student's signature

Thesis Advisor's signature