

Presentation format: Oral

Cattleya cultivation under LED lights

Paul Chong Ren Huang

Orchid Society of South East Asia, Singapore

The speaker will present his experiences in cultivating cattleyas under LED lighting as a hobbyist in the United States and Singapore. LEDs have become cheaper and more energy efficient in recent years. Cultivating cattleyas, including the full-sized or 'Standard' cattleyas, with LEDs as a sole light source has become quite feasible and presents several advantages. Cattleyas grown under LEDs, including one grown by the speaker, have even garnered awards from the AOS. Seedlings have low mortality and high growth rates under LEDs. Limitations and considerations for cultivation under LEDs are costs of lighting units and electricity, irrigation solutions, changes in flower quality, and plant selection. Regarding plant selection, certain species and their hybrids require short days and low temperatures to induce flowering, and cultivation under LEDs can help or hinder this process. Certain plant architectures and flowering behaviours are more predisposed to LED cultivation, and these traits should be considered by customers and breeders.

Keywords: *Cattleya*, LED, hobbyist, seedling, flowering, breeding