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Domain

Smart Agriculture

Course

Management of high-value cut-flowers

Project topic

Harvest and post-harvest care of Dendrobium



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Harvesting

Flower spikes are generally harvested with four to six unopened buds when 70-75% of the lower flowers fully open.

Harvest should be done in the early morning or late evening. Spikes are harvested with sharp sterilized knife.

Yield

Flower production starts 18 months after planting. It can produce 5-6 spikes per plant per year. The number of flower spikes per plant increases as plants age, reaching a maximum at 4 years, and then decline.

Spike length reaches a maximum after 3 years.





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Post Harvest Management

- Harvested spikes should be immediately placed in clean bucket of water with the cut ends submerged about 2-3 inches.
- Immersing the spikes in warm water at 55°C for 5 seconds extends the post harvest longevity of flowers.
- Pre-cooling at 4-6°C for 3- 4 hours and pulsing improves the vase life. Then the spikes are taken in the cool shaded packing area.





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A number of floral preservatives are also used to prolong the vase life of cut flowers. In order to improve the quality and vase life of flowers spikes, the cut spikes should be subjected to pulsing with sucrose at the rate of 2-6% for 2- 4 hours.

Sucrose in keeping solutions as a carbon source may extend the vase-life of cut orchid flowers. The best pulsing treatment is sucrose 6 % and BA 25 ppm.

A combination of biocide, sugar and hormone (8-HQC 100 ppm + sucrose 2 % + BA 25 ppm) remarkably enhances the post-harvest life of the Dendrobium cut flowers.





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Grading of Orchids

Orchids are graded according to length, colour, flower size etc. Following are the grades:

Name of the grade	Length of the spike	No. of opened flowers
Small-S	30 cm	4-5
Medium-M	40 cm	6-8
Large-L	45 cm	8-10
Extra Large-XL	50 cm	10





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Packaging

The flower spikes of are first sleeved in polyethylene sleeves of standard thickness. The standard is to bunch around 5 spikes of the same grade and variety in a pack box. Each stem in the box should be placed in the tube containing water or preservative solution. Cotton impregnated / vial with sucrose 6%, BA 25 ppm and 8-HQC 200 ppm plugged to the cut end of inflorescence stalks delays floret fading, shedding and wilting of flowers.

Cushioning materials should be provided in the back side of the sleeve to avoid the damage during transportation.

