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# Center for Smart Agriculture

## High value Cut flowers



**Module 3: Dutch Rose Cultivation**  
**Session 1: Introduction to Dendrobium Orchid**



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## INTRODUCTION



- ▶ Dendrobiums come from South East Asia in an area that stretches from Northern India to the islands off the East coast of New Guinea and Australia to Polynesia. The latitude where they grow is important. The Equator runs through the middle of this territory and here it is always hot at sea level without any seasonal variation
- ▶ However, the plants from north of the Tropic of Cancer and south of the Tropic of Capricorn are used to a much greater range of climate, with colder drier winters and warm wet summers. It is important therefore to know where every plant comes from
- ▶ *Dendrobium species is a typical tropical orchid species suitable for Chennai and other coastal areas where the humidity is high.*



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# VARIETIES

SONIA-17 , SONIA-28 , EMMA WHITE , SAKURA PINK



**SONIA-17**



**SONIA-28**



**EMMA WHITE**



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# GROWING ENVIRONMENT

75% shade net house with 70 - 80% humidity, day temperature of 21 - 29°C and night temperature of 18 to 21°C is ideal for growing this tropical orchid. In high rainfall zones, the shade net house should be provided with a rainshelter.





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## PROPAGATION:-

Division of clumps, keikis, back bulbs and tissue culture plants.



## GROWING MEDIA:-

Most common potting mixture consists of charcoal, broken pieces of bricks and tiles, coconut husk and fiber.





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## IRRIGATION:-

Mist or overhead sprinkler to provide water and to maintain humidity.



## NUTRIENTS:-

Foliar application of NPK 20:10:10 @ 0.2% at weekly intervals starting from 30 days after planting





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## GROWTH REGULATOR:-

Foliar application of GA3 50 ppm at bimonthly intervals starting from 30 days after planting.

## REPOTTING:-

Orchids need repotting regularly, usually every two to three years.

1. When the plant grows large and overgrows its container.
2. When the potting material deteriorates
3. When the plant has to be split or divided
4. It is better to repot epiphytes every year.

The best time for repotting is when fresh roots emerge at the bases of the previous year's growth. In monopodial climbers, repotting or division has to be done when new leaf growth shows at the top and there is new root growth.



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## POST HARVEST HANDLING:-

- Pulsing : 8-HQC 500 ppm + Sucrose 5% for 12 hrs
- Holding solution : AgNO<sub>3</sub> 25 ppm + 8-HQC 400 ppm + → Sucrose 5%
- Wrapping material : 50 gauge polythene with base of spikes dipped in 8-HQC 25 ppm

PEST:- Snail and Slug: Hand pick and destroy them immediately

DISEASES:- 1. **Bacterial soft and Brown rot (*Ervinia spp.*)**

Foliar application with Streptomycin Sulphate @ 0.5 g + Copper Oxy Chloride @ 2 g/l.

2. **Bacterial Brown spot (*Acidovorax sp.*)**

Foliar application with Streptomycin Sulphate @ 0.5 g + Copper Oxy Chloride @ 2 g/l.

3. **Blackrot (*Pythium sp.* and *Phytophthora sp.*)**

Foliar application of Metalaxyl 2 g / lit. (or) Dimethomorph 50% WP 0.5 g / lit.

4. **Anthracnose** - Foliar application of Thiophanate Methyl 2 g / l (or) Difenoconazole 0.5 ml/l





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Thank you