

Soft cane *Dendrobium* orchid growing in the Riverina region of NSW - *Dendrobium nobile*

Soft cane dendrobiums are epiphytes with long slim pseudobulbs. They are semi deciduous and can drop their leaves as the weather cools in winter. They are native to northern India, southern China, Thailand, Laos, Burma and Vietnam (1) in mountainous environments at 1000 to 1700m where they experience cool to cold temperatures in winter. In their native habitat they are exposed to temperatures as high as 40°C and low as 0°C (8).



Many hybrids have been produced. They can be subdivided into two types, the 'English' and 'Japanese' type. The English hybrids have mainly pink, mauve, cream or white flowers. The Japanese hybrids tend to have larger more colourful flowers and lack the characteristic 'eye' of *D. nobile* (1).

Flowers are produced from nodes on mature canes, typically in spring from August through to November. Older canes usually lose their leaves prior to flowering (1). They usually flower on canes that are two years old, the cane losing its leaves in the second winter and then flowering in the spring, although occasionally plants will flower on a 1 year old cane that still has its leaves (3,4,8). Flowering in spring usually commences once temperatures reach 18°C (5).

Plants develop two small leaves at the top of the cane when cold temperatures in autumn terminate the growing point and encourage the development of flower buds. If they don't terminate their upward growth, some growers pinch out the top to prevent canes becoming too long (8).

These orchids can be grown in a protected shade-house in the Riverina provided they are protected from winter rain, frosts and given plenty of light. They can also be grown in a cool glasshouse.

Temperature requirements.

These orchids are cooler growing than the Cooktown Orchid, *Dendrobium phalaenopsis* (syn. *Vappodes phalaenopsis*) and prefer a temperature range of 3°C at night in winter to 32°C in the daytime in summer, however they will tolerate temperatures as high as 42°C and low as 3-4°C (5) or even 0°C for short periods (6,8). They need about a month of low temperatures of 10-13°C in autumn-winter to trigger flower buds (6). Other growers report that flower buds are visible 14 days after temperatures consistently drop below 15°C (12). They must be protected from frost. Nighttime temperatures should not fall below 5°C-10°C when in flower.

Light

They prefer bright light (2500-3000fc) with perhaps 30-60% shade in summer but no direct sunlight (1,3,5,8). Light should be increased further in autumn (April) and winter to mature the canes and they should have full sun (4500+fc) during this period (3, 4, 5) to mature the canes. Plants will fail to flower unless they receive good sunlight for an extended period (9). If plants are too crowded and not receiving sufficient light along the length of the cane they will only produce flower buds at the top of the cane (6). If grown in too much shade they will

produce tall green canes with many keiki and few flowers. With good light they produce shorter plump canes.

Humidity and air movement

Soft cane dendrobiums need good air movement and humidity during the growing season but need lower humidity in winter. Daytime humidity in summer should be between 50 and 70%.

Misting is beneficial during very hot periods or where humidity is low. Fans can be used if air movement is not adequate, particularly on very hot days.

Water

The natural environment of these plants has two distinct seasons, a hot humid wet season and a cooler dry season lasting 2 to 3 months. They should therefore receive frequent or daily watering during the summer months (7), but a dry spell with infrequent watering (every 7-10 days) over winter during the rest period from May to when buds first appear when watering can slowly increase (6). However canes should not be allowed to shrivel in winter and water if necessary to prevent this (1). Allowing the pots to dry before each watering assists in reducing fungal and bacterial infections (5).

The dry spell and rest in winter is considered necessary for the canes to produce flowers, otherwise if kept wet they will produce keikis instead (1,3). Keith Ryan recommends watering only twice per week from March to May and but just light watering about every 10 days from June to September until flowering is finished (11). There are other views however, and some growers continue to water through winter and still have plants flower well without producing keikis (12) although they do stop applying nitrogen fertilizer after the end of February (12).

Cessation of growth and the dormant period is indicated by the development of 2 small leaves at the tip of the cane (1).

The watering frequency depends on how they are being grown, slabs or baskets/pots, potting medium and weather conditions. Daily watering may be required in very hot weather in summer, but this can be reduced when the weather is cooler.

During cooler weather water in the early morning so plant leaves are dry by the evening and avoid watering altogether on cold overcast days.

Potting medium

Soft cane dendrobiums can be grown in a pot, on a slab or in a basket. They should be grown in a well-drained, medium 1-1.5 cm bark potting mixture consisting of 70% bark and 30% perlite (5, 6). Some growers use a mix of equal parts of bark and stones which can be scoria, blue metal or river pebbles (8). Another popular mix is 1 cm bark/charcoal with added perlite and vermiculite (5). Some cow manure or blood and bone can be added to the mix.

Plants should be repotted every 2 to 3 years immediately after they have finished flowering (6, 11) and new growth is starting to appear and are about 2 to 12 cm long, usually in late spring or early summer (1). Repotting should be finished by late October (11). Ideally they should not be subdivided with less than 4-5 canes as growth may be retarded with less canes (5). They should not be overpotted, using the smallest pot possible to accommodate the roots usually no larger than 125 cm dia (5) but pots up to 200cm can be used for larger



plants (11). When grown in pots, squat shaped pots used to be preferred (5) but successful Sydney grower Keith Ryan has found deeper nursery shaped pots produce larger plants and bigger flowers (11). Gravel or stones can be placed in the base of the pot to prevent plants toppling over when in flower (3).

Only the roots should be in the compost. Canes will rot if the base eyes are buried (5).

Coat any cut surfaces with Mancozeb and do not water plant until the roots have dried and the Mancozeb has dried and sealed the cut surfaces (5). Keep the plant in heavy shade until it has recommenced growing (5).



They usually require staking due to their tall growing habit and especially after repotting. Alternatively the canes can be allowed to hang down when grown in a basket or on a slab. When the nodes on older canes start to swell they should be staked to support the flowers.

Fertilizers

Only liquid **low N** fertilizers should be applied at quarter to half strength regularly during the growing season, about every 2 to 3 weeks until April-May when fertilizing should stop (7,8). Some growers recommend stopping all fertilizer in late February (11) or early March (6) to reduce keiki development. A fortnightly high potassium fertilizer application is recommended between November and April to promote flowering (3, 5). Some growers fertilize year round but stop using high nitrogen fertilizer from late February until mid October (12).

Most growers suggest no fertilizer should be applied while the plants are dormant (mid May-October) and wait until new growth is about 50-70 mm long before fertilizing (11). It is noted that views differ on fertilizing, and as mentioned earlier, some growers fertilize year round only stopping nitrogen application in autumn and winter (12). As canes mature, switching to a high potash fertilizer assists flowering (5). Slow release fertilizers are not recommended as they may release fertilizer during the winter rest period (5). Half a teaspoon of blood and bone per pot can be given to larger plants and less for small plants (11).

Some growers suggest the use of a wetting agent (horticultural detergent) at ½ ml per litre water with the fertilizer is essential to assist the absorption of the fertilizer by the compost (5).

Keikis

There are number of reasons why plants may produce a lot of keikis or aerial growths. Possible causes include if roots are damaged, they receive too much water or fertilizer during their winter rest period (1, 11), particularly nitrogen fertilizer (3), do not get a low temperature chill in autumn (11) or are in too much shade (5,6, 7, 11). Keikis can be removed and potted once they have developed roots with green tips, preferably once roots are at least 6 cm long. Some growers recommend leaving keikis on the stem for at least 12 months and not removing them until the youngest leaves have lost their gloss (11).

Plants produce keikis at the expense of flowers so it is not something to be encouraged.

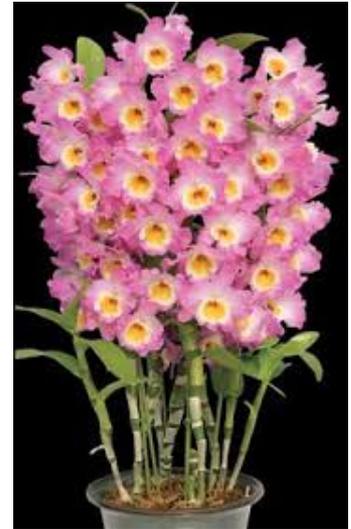
Sprays

The Saint Augustine Orchid Society (10) web site advises that copper sprays should **not** be used on dendrobiums for the control of bacterial diseases.

Kelthane is suggested for mite control, Mancozeb for fungal spotting, and white oil every 2 weeks for scale (5).

Varieties for the Riverina region of NSW

For a detailed list of the best varieties for cool growing conditions experienced in the Riverina region of NSW refer to “Australian Gardening Flora’s Orchids” and other sites listed in the references below (2). Local growers are also a good source of cool growing plants. In addition to *D. nobile*, other Indian Dendrobiums that come from high altitude and tolerate Melbourne winters include *D. chrysanthum* (1000-2000 m), *D. fimbriatum* (1500 m), *D. aphyllum* (syn. *D. pierardii*, 1000 m) and *D. gibsonii* (700-1700 m) (9).



Intergeneric hybrids

Most hybrids have *Dendrobium nobile* in the parentage. Hybrids have larger flowers and a greater colour range. Dendrobium Cassiope is a hybrid of *D. nobile* and *D. moniliforme*.

Acknowledgements and further reading:

This information sheet has drawn on information by local growers and the references listed below.

1. Soft-cane Dendrobiums by A Hope. <http://www.oscov.asn.au/articles/softdend.htm>
2. Gardening Australia Flora’s Orchids. ABC Books (2005).
3. Cultural notes: How to grow soft cane dendrobiums. <http://www.oscov.asn.au/articles2/cultsoftden.htm>
4. How to grow soft cane dendrobiums. <http://www.oscov.asn.au/articles4/growsoftden.html>
5. Soft cane dendrobium orchids. <http://www.bribieislandorchidsociety.com/wp-content/uploads/file/orchidgrowing/Growing%20Soft%20Cane%20Dendrobium%20Orchids.pdf>
6. Elanbee orchids. Soft cane dendrobiums. <http://members.optusnet.com.au/bdobson/Soft%20Cane%20Dendrobiums.html>.
7. Softcane Dendrobiums by K. Ryan. <http://www.parramattaorchidsociety.org/Cultural%20Notes.html>
8. Growing soft-cane dendrobiums in southern Victoria. By Michael Pender. <http://www.oscov.asn.au/articles3/densoft.htm>
9. Will it grow cold? by Brian Milligan. Orchid Societies Council of Victoria. <http://www.oscov.asn.au/articles2/cold.htm>
10. St Augustine Orchid Society. Orchid pests and diseases. <http://staugorchidsociety.org/culturepests-diseases.htm>
11. Growing Softcane Dendrobiums by Keith Ryan. *Australian Orchid Review* (2015-2016) Vol 80, No6. pp21-35.
12. Growing “Softcane” Dendrobiums by Eric and Dorothy Collins. *Australian Orchid Review* (2016-2017), Vol 81, No 6, pages 16-24.

Your comments and suggestions on this cultural guide are welcome.
Email your comments to dearconsultingservices@gmail.com

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