

PROPAGATION OF TROPICAL AND SUBTROPICAL GREVILLEAS

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The plants grown at our nursery have been collected from a wide variety of sources. These include plants from enthusiastic native plant collectors, from members of the Society for Growing Australian Plants, other nurseries and, more recently, from hybrids, which have occurred naturally in most cases in gardens.

Grevillea's generally hybridize very readily and seedlings that have come up in gardens in and around Brisbane are the source of many of the hybrids in cultivation.

The majority of the tropical grevillea's are grown from cuttings, which appear to be superior to seedlings. They flower much younger than seedlings, usually in the same season, and have uniformity in flower colour and growth habit.

Evaluating new plants for use in our production is done in several ways. Plants are grown in large shrub tubs, and in the ground in display gardens at the nursery. Plants that show any new and interesting features, for example, reliability, free flowering, new and interesting flower colour, interesting foliage, and pest and disease resistance are used as mother stock. Cuttings are taken and hopefully rooted to establish stock of mother plants to begin building up sufficient numbers for release to the trade.

MOTHER STOCK

Tropical and sub-tropical grevilleas show varying degrees of difficulty when propagated from cuttings. The most important thing in propagating these plants is to have good, healthy, fresh cutting material. To achieve this, hygiene and management of mother stock is essential.

The mother stock plants are grown in large shrub tubs or in the ground. Cuttings are also taken from young plants growing in the nursery for sale. This method promotes bushy growth in the young plants and also provides good, fresh, propagation material and helps build up the numbers of new plants more quickly.

The mother stock plants are pruned heavily from the time they are potted. After pruning, a high nitrogen fertilizer is applied to keep the plants growing vigorously, thereby maintaining good supply of fresh vigorous cutting material, relative-

ly free from leaf and stem diseases. Mother stock plants are disposed of after 18 to 24 months and replaced with fresh young plants.

It cannot be emphasized too strongly the importance of good hygiene in every stage of the propagation of grevilleas. Sanitation procedures used are: tubes and trays are soaked in a solution of sodium hypochlorite; benches and tools are sterilized daily; heated benches are drenched regularly; a foot bath is placed at the propagation house door to help prevent pathogens being brought into the propagation house via workers boots; and propagation media is steam pasturized. Every precaution is taken in all steps in the propagation process to minimize the infection of cuttings.

The cuttings are taken from stock plants throughout the whole year. Fresh growth is taken — usually in the morning — and kept cool and moist while being transported to the preparation room. Here the material is cut into two to four node cuttings with the bottom leaves being removed and, in most cases, the remaining leaves are trimmed to about half their original size. This helps reduce transpiration and overcrowding in the tray of tubes. The ends of the cuttings are then dipped in a hormone rooting solution of varying strengths to suit the type of material and plant being propagated. After the hormone treatment the cuttings are inserted into individual 50 mm plastic tubes and placed on heated benches in a warm, humid, misted — but well ventilated — greenhouse. After being placed on the bench the cuttings and tubes are drenched with a fungicide. The cutting rooting mixture used is perlite (60%) and peatmoss (40%). After pasturisation a slow release fertilizer is mixed in at about one-tenth the recommended rate. This gives the cutting some nutrition once struck. After the cuttings have struck they are moved to a poly-covered igloo and are irrigated daily until new growth is evident. From the igloo they are moved to a 50% shadehouse until they are ready for potting on.

The potting medium used is a mixture of sand 40%, hardwood aged sawdust 40%, and pinebark flakes 20%. To this, Nutricote — a slow release fertilizer — is added at the recommended rate. Extra care is needed with grevillea's when potting to avoid root damage. After potting, the plants are put out in the full sun and an application of Ronstar® (oxadiazon 2%) pre-emergent herbicide is applied to the top of the pots.

The popularity of all types of sub-tropical and tropical grevilleas is increasing because they are some of the fastest growing and most spectacular, free flowering Australian native plants. One in particular, *Grevillea* 'Robyn Gordon' has been

one of the most popular native plants to be grown in recent years, because of its rapid growth, all year flowering, and proven reliability in a wide range of climatic conditions.

The native nectar-feeding birds are welcome visitors to any garden and the sub-tropical and tropical grevilleas, such as *G.* 'Misty Pink', *G.* 'Pink Surprise', *G.* 'Sandra Gordon', *G. banksii*, *G. pteridiifolia*, *G.* 'Honey Gem', *G.* 'Starfire', *G.* 'Pink Parfait', *G.* 'Ned Kelly', etc., are excellent plants for attracting these birds. The hybrids with their showy, vividly coloured flowers, are very good for use in floral displays and arrangements. The flowers last at least as well as most common cut flowers and, because they flower for most of the year, there is never any shortage of fresh flowers.

Their use in parks and public gardens, in private gardens, and as roadside planting would result in an abundance of colour and nectar-feeding birds and animals.

With such a wide range of flower colours and growth habits there is a tropical and sub-tropical grevillea, or hybrid, for every garden and landscape.

HIBISCUS PROPAGATION IN COOL CLIMATES

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In earlier years, Melbourne nurserymen usually propagated *Hibiscus rosa-sinensis* cultivars in late winter to early spring from hardwood cuttings taken from established garden plants. Results were quite often variable and unreliable, particularly with less hardy cultivars, due to frosty conditions affecting the parent plants.

When the struck cuttings were potted into 125 mm pots they generally did not attain saleable size until early summer, thus missing out on late spring sales.

With experimental batches of cuttings taken during summer and autumn, I found that success rates with soft tip and vigorous stem cuttings were much better and more predictable.

A strike rate of 90% to 95% was achieved consistently with soft tip cuttings approximately 100 to 125 mm long. An

¹ Formerly at Charman Road Nurseries.