QUEENSLAND NATIVE PLANTS SUITABLE FOR CULTIVATION

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Queensland is a vast state of some 667,000 square miles. It has 3,263 miles of coast line and is situated in the tropical and sub-tropical southern zone, with the Tropic of Capricorn passing through Rockhampton. The state is divided by a series of mountain ranges and spurs along the east coast which form The Great Dividing Range. This mountain range varies from a few miles off the coast to 200 miles inland. It is the coastal side of this range that receives the bulk of summer rains. The areas where the range is close to the coast are predominantly rain-forest areas, marshy low-land Melaleuca or coastal Wallum areas. Summer monthly rainfall in this area varies from 200mm to over 500mm in the northern tropical regions. The rain-forest contains a wealth of trees and shrubs suitable for cultivation as garden and indoor plants Unfortunately many have still to be collected and tested, but time is running out as great areas of our rain-forests are being cleared at an alarming rate for commercial crops. The areas around Townsville, Rockhampton, Gladstone, and Gympie are classified as semi-arid with annual falls of tropical flood rains. West of the Great Dividing Range is mostly semi-arid to arid with annual rainfall of 100 to 500 mm. It is from these drier western areas that the bulk of our most colourful and most desirable garden annuals, low growing shrubs, and small trees come. Unfortunately the majority of these are not successful in garden cultivation in coastal areas. Of the countless number of species from inland regions tried by members of the Society for Growing Australian Plants, Queensland Region, only a small minority of species of *Callistemon, Grevillea* and *Acacia* could be classified as suitable for general garden use in the populated east coast cities and towns where at least 60 percent of the state's population reside. Also, over 70 percent of the state's nursery industry is contained along this coastal strip with the majority of commercial production found within a 100 mile radius of the state's capital, Brisbane, which is situated in the southeast corner of the state.

COLLECTION OF SEED AND FRUITS

When travelling the vast areas of Queensland, without doubt the easiest and most efficient method to collect plant material is by seed. This can be picked and later, at leisure, propagated. My method of collecting seed is to remove as much plant material as possible from around the seed capsules and place them in either

a wet-strength paper bag or a cloth bag. If the plant is known, record its botanical name, location of collection, and date on the bag. An unknown plant is given a code number and a pressing is made for herbarium identification. On returning home the seed is air-dried and cleaned. Fleshy fruits, which are collected from either palms or rain-forest trees, are stored with flesh intact in plastic bags and marked as previously stated, making sure they are stored in a cool, shaded spot in the car while travelling. Where possible, I clean the pulp from the fruits before sowing. Most of this seed has a very short viability, usually one to six weeks, and it is essential to keep it in a moist atmosphere. Most of this type of seed will keep and still germinate after three to six months if treated as follows: Clean the pulp from the seed in running water and remove the excess moisture with paper towelling, place the seed in a clean plastic bag, then roll up the bag squeezing out as much air as possible, tie with a rubber band and place on the lowest shelf of a moist, cold refrigerator. Some of this seed will even show signs of germination on removing from storage. I have on many occasions used a plastic bag to pre-germinate rain-forest tree seed of *Harpulia, Eugenia, Randia,* etc. *After towelling, place the seeds in the plastic bag, blow the bag* up like a balloon and tie. Place in a warm, well shaded, spot and germination occurs in 5-7 days. Leave for about three weeks and you almost need an axe to separate the seed lines. I then sow the pre-germinated seed into individual 2-inch tubes. This method can save up to four weeks in tube production. Hard woody seed capsules like those of *Banksia* and *Hakea* usually require some type of heat application to make them release their seeds. Much can be learned from nature and people living in bushfire-prone areas can vouch for the ferocity of the fire that passes through the *Banksia* and *Wakea*-studded bushland. Although this fire is fierce, it is also relatively short. Many methods have been used to extract these seeds. I find the best results are obtained by fiercely burning the seed cones with a large porta-gas blow torch or, better still, an oxy-acetylene torch. Leave the burnt cones for a few days and then by tapping them, most of the seeds should fall out. With *Banksia* and *Hakea,* as well as all other winged seeds of the same size and larger, I sow point down with the base of the wing just level with the soil surface. For most of our seed propagation we use a mix of German peat moss, perlite, and coarse sand in equal proportions. To this we add 6 lbs of garden lime to the cubic yard. No fertiliser is added; this is applied in liquid form after germination.

COLLECTION OF GREEN PLANT MATERIAL

Collection of cutting material in the wild presents problems that seem to magnify out of all proportions as the distance and

length of travel from home base increases. Also most material collected from natural habitat will generally be of poor quality and success rate at best will most probably only supply enough propagated material to get the species started in cultivation. This, in my opinion, is all that any propagator should require of the bushland. Although there are exceptions to this with material coming from wetland and rainforest areas, I think the same principle of removing only enough material to establish stock plants should be taken. Many a time when an unusual or rare form of species is discovered and the knowledge broadcast it is wiped out by over-collecting. When I collect cuttings from the wild I take only tip cuttings and if the material is on the hard side I take only a few hardwood cuttings to set. On 1 to 3 day trips I usually use plastic freezer bags to store cuttings. These, on returning to vehicle or campsite are lightly sprayed with water and the bags partially blown up, tied, placed in a polystyrene box and stored in a cool, shaded spot. On longer trips cuttings become a greater problem. Space in vehicles is at a premium and polystyrene boxes require a lot of room but are still ideal for storing a large number of cuttings. The two methods I have used are:

(1) Prepare the cuttings roughly to size and pack between layers of damp newspaper, one layer on top of the other until the box is full.

(2) Place about three inches of damp vermiculite and perlite mix in the bottom of the box. Prepare the cuttings roughly to size and soak in water with some Formula 20 added for about an hour. Remove excess water as much as possible, then set the cuttings in the box just like a cutting tray, only as tightly as possible. You are then able to air the cuttings and give them an occasional misting. It is essential that this box be placed in a cool place in the vehicle, away from any sun shining through the glass windows. From experience it is quite easy to produce a heap of compost even in an insulated box. The cuttings are then prepared as normal on return, usually set in ⅓ German peat and ⅔ perlite, to which is added garden lime at the rate of 6 lbs per cubic yard. I usually set all of my cuttings in 1½ or 2 inch standard tubes packed in wire trays. At the present time I set my cuttings in an open 50% shade house under an intermittent leaf type mist unit. The only difference from most mist units is that I use B type mist nozzles at 6 ft centres. I do not use any form of bottom heat as most of my propagation is done during summer and in my situation the cost is not warranted.

QUEENSLAND NATIVE PLANTS WORTHY OF CULTIVATION

Agapetes meiniana. First discovered on the summit of Queensland's highest mountain range Mount Bellenden-Ker by Sayer and Davidson in 1887, *Agapetes meiniana* is still a little known plant in cultivation or in its natural habitat Belonging to the family Ericaceae, which includes the well known azaleas and rhododendrons, Australia has only four genera in this family — *Gaultherian* and *Pernettya* from the alpine areas of Tasmania, and *Agapetes* and *Rhododendron* from the high altitude areas of the Bellenden-Ker mountain range *Agapetes meiniana* is a rather unusual plant with bright red tubular flowers, usually in groups of three along its rather thin arching branches The flowers hang below the attractive lanceolate to ovate dark green shiny leaves which are a lighter shade underneath As I have not had the pleasure of visiting the Bellenden-Ker ranges, I know little about its natural habitat It is reported to grow at altitudes above 1,000m as an epiphyte in the forks of large rain-forest trees and occasionally out of rock crevices Although only limited numbers of this plant are in cultivation, it appears to grow quite well from Cairns to Brisbane if grown as a hanging basket plant in good shading The plant appears to produce a swollen underground stem from which the long slender arching branches are produced This plant has been successfully propagated from seed and from tip cutting about 10cm long, either under mist or in a cold frame Coming from a high altitude, this plant should prove very suitable for southern states

Rhododendron lochae is from the same habitat of Bellenden-Ker ranges as the *Agapetes* and is well known in cultivation throughout Australia and overseas In nature it is a large scrambling shrub to 5m, often on exposed rocky areas and usually found above the 1000m altitude A cultivated plant is usually a lot more compact reaching about 2m in height The red bell shaped flowers 3cm across and 5cm long are usualy borne in terminal clusters of up to six flowers This species can be propagated either by seed or tip cuttings in summer with the aid of mist and bottom heat Although originating in Queensland it is more suited in cultivation to Victoria and Tasmania It has also been grown in cool, shaded gardens in Brisbane

Eucalyptus ptychocarpa. Most native plant enthusiasts in coastal Queensland at some time or other have tried to grow the West Australian red flowering gum *E ficifolia* without success It seemed the only eucalypts suitable for cultivation were white flowered ones Then we were blessed with two striking coloured flowered euclaypts from the tropics being brought into cultivation They were *E ptychocarpa* and *E miniata E ptychocarpa*, the swamp bloodwood, is found across the top of the Northern Territory and in the Kimberley Region of Western Australia This eucalypt has been successfully cultivated in all areas of coastal Queensland over the past 10 years Most of the propagation has been from seed While the large, soft seed germinates readily during the summer months, no guarantee can be given to the flower colour, which ranges from white to pink to deep red By collecting seed from isolated trees of good deep pink to red colour forms, most of the seedlings, which usually flower in three to four years, are of good colour It is a fast growing tree of 10 to 20m that requires a moist position in the garden and heavy watering during dry periods The large terminal flower heads are produced in abundance from summer through to autumn The foliage, as well as the large clusters of large, woody ribbed seed capsules, are an added attraction of this plant This is the only red flowering eucalypt that I would recommend for coastal planting in tropic and sub-tropical Queensland

Eucalyptus miniata is an outstanding orange-flowered eucalypt with a natural range across the top of Australia growing in open forest and sandstone outcrops It requires drier conditions in cultivation than *E ptychocarpa* but the tree has been successful in northern coastal areas down to Brisbane provided it has good drainage In good conditions it will reach a height of 10 to 20 m with a persistant scaly papery bark in colours of grey and red for ⅓ of the trunk, above

this the trunk is usually smooth and light grey in colour It is usually propagated by seed and it flowers in axillary umbels of 3 to 7 large orange flowers in autumn to winter when three years old. The large fluted seed pods 3 to 8cm in length by 2 to 4cm in breadth require 12 months to ripen and usually produce 6 to 8 viable seeds up to 6mm diameter

Bombax ceiba. Silk cotton tree. (Figure 1) A large tree often 18m in height and having a fairly wide spread The species grows on moist, but well-drained hillsides, or deep alluvials along water courses It is deciduous and usually flowers before the appearance of new foliage. The branches have many stout conical prickles The large 10cm bright red cup-shaped flowers appear in great numbers during late winter and early spring, making a spectacular display. The flowers are usually full of sweet tasting fluid It is not certain if this is all nectar, or water collected from rain Propagation is by seed or cuttings taken when flowering has finished

Buckinghamia celsissima: Ivory curl flower is extensively used in Brisbane as a street tree where it maintains a height of 5 to 10m and a spread of 3 to 6m It also makes an excellent garden tree as it responds to regular pruning after its summer to autumn flowering period Natural distribution is rain-forest coastal ranges from Mt. Spec to Cooktown Flowers which cover the entire tree are sweetly scented, long creamy white racemes 10 to 20cm long and 3 to 4cm in diameter This tree sets seed freely and it is usually ready for collecting by early winter The seed is oval and papery and very thin and germinates readily if set in spring Tip cuttings taken from new growth after pruning, or from natural spring growth will strike under mist. As seedlings flower at an early age, this is the best method of propagation. It is successful as far south as Melbourne

Harpullia pendula Queensland tulip wood A widespread rainforest and coastal river tree along the east coast of Queensland and Northern New South Wales It has been used successfully as a garden, street, and park tree It develops into a medium height good shade tree with a dense rounded canopy There are a large number of two-lobed fruits which are yellow, orange or red in colour during the winter period These then split in early spring to reveal a large shiny black seed which germinates readily if planted in a warm, moist atmosphere

Nauclea orientalis Leichardt tree A large spreading tree occurring in rain-forest and low wetland areas from Shoalwater Bay to Cape York In cultivation in open areas, it tends to grow somewhat smaller, about 10 to 12m in height and is semi-deciduous during winter New growth appears in spring to give the tree a dense canopy of large heavily-veined leaves About Christmas the unusual 5cm round orange ball flower spikes with numerous small pink flowers appear on current season's growth Propagation is by seed or cuttings taken during the summer period

Graptophyllum excelsum Scarlet fuchsia A tall multi-stemmed shrub with glossy dark green foliage growing to a height of 3m Usually found growing on rough rocky hillsides that are well drained in central and northern Queensland This plant has adapted quite well to cultivation and, with regular pruning and watering, produces an attractive shrub which flowers throughout the year The main flush of bright scarlet flowers occurs in spring It is easily propagated by tip cuttings all yar round

Darlingia darlingiana. This species occurs naturally in rainforest areas of North Queensland around Mt Spec to the Daintree River where it grows to a height of 30m However, in southeast Queensland it has proved to be a successful garden tree keeping to a height of about 5 to 8m with a 2 to 4m spread It has attractive large leaves and flowers profusely in late spring with multiple upright spikes of white flowers, 20cm long and 5cm dia. It is usually propagated by seed as cuttings are usually extremely slow to root and have a very low success rate The tree is frost tender but has been grown in protected areas as far south as Melbourne

Figure 1. *Top left:* Flowers of *Bombax cieba*. *Top right:* Fruits of *Elaecocarpus grandis*. *Bottom:* Flowers of *Millettia megasperma*.

Elaeocarpus grandis Blue Quandong (Figure 1) A large attractive tree with, in nature, a buttressed trunk to 30m In open garden situations, it rarely exceeds 12m with a spread of 6m Its growth habit is most attractive producing radial branches at about every 2m of trunk growth giving the tree a pine-like appearance The leaves are large elliptical shaped with a finely serrated margin The old leaves have the added attraction of turning to red autumn colours before falling The tree flowers very heavily on the branchlets in masses of greenish-white, hanging bell flowers in autumn These are followed by a heavy crop of 2 to 3cm round green berries that turn bright blue when ripe The blue berries hold on the tree for a period of many months In far north Queensland the fruit is the favourite food of the magnificent fruit pigeon and, on falling to the ground, they provide food for the cassowary The cassowary is a large flightless bird of the rainforest and has the answer for germination of the hard seed of this fruit After passing through the birds' digestive system the seeds germinate readily. Germination of the seed in a nursery takes from 1 to 7 years The trees' natural distribution is along the coast from Cooktown, North Queensland to Nambucca Heads, New South Wales

Eugenia leuhmanii. Small leaf lilly pilly or water gum (Figure 2) In nature, a large rainforest tree with distribution in the coastal rainforests of Northern New South Wales and Queensland In cultivation, it produces a small compact tree with foliage usually to ground level, 5m in height and 2 to 3m spread The lance-shaped foliage is dark green and dense The most outstanding feature of this tree is the brilliant pink to red colouring of the new foliage which colours the whole tree during early spring and after long periods of rain The flowers are terminal, small white pom-pom type and are followed by clusters of bright red pear-shaped fruits which are edible and can be made into jam The fruit usually contains one small round seed which germinates readily in moist conditions The seed has short viability and should not be allowed to dry out I usually clean all the pulp from the fruit and store in plastic bags as previously explained Tip cuttings also strike readily in about 12 weeks under mist This plant has been extensively cultivated in Queensland but should grow as far south as Melbourne It makes a fine, large, tub plant

Eugenia wilsonii is a straggly, sparsely branched understorey rainforest plant in its natural habitat in far north Queensland In cultivation in Brisbane it has produced a low, compact shrub 1 to 3m in height with the same spread It is multi-stemmed and has dense foliage, producing numerous large deep burgundy pom pom-like terminal flowers on cascading branches New season's foliage, produced at flowering time, is also bright red The fruit is in clusters of round, white berries with a single seed which germinates easily Cuttings of half-hardened, new-season's growth strike readily under mist This plant does best in a shaded, moist area, full sun has adverse effects

Oreocallis wickhamii Satin oak (Figure 2) Has often been regarded as one of the world's outstanding flowering trees but, until recently, very little use has been made of it in cultivation Its natural distribution on the tableland in north Queensland is under threat due to land clearing for farming on the deep red basalt soils It is a magnificent high altitude rainforest plant growing to 10m in open cultivation with large dense blue-green foliage Juvenile foliage is distinctive 3 to 6 lobed The orange-red to red flowers are produced in large numbers over the canopy to produce a striking result This species is usually propagated by seed although some results have been achieved with tip cuttings, but these are slow and of low strike rate Seedlings usually flower in 5 to 6 years Limited numbers have flowered as far south as Victoria It is highly recommended for garden and park planting but requires good watering during the drier period

Phaleria clerodendron. An attractive lanceolate foliaged lowland rainforest tree growing from Innisfail to Cairns in tropical north Queensland This tree grows to about 5m in Brisbane and is a useful garden tree for a shaded area It has the unusual feature of producing its clusters of fine tubular white flowers

Figure 2. *Top:* Fruits of *Eugenia leuhmannii. Bottom:* Flowers of *Oreocallis wickhamii.*

below the foliage, back along the stems, branches and trunk to the ground level The flowers are followed bright-red, elliptical fruit which contains one seed that germinates readily. Tip cuttings are also successful. The fruit are also a food source for the cassowary

Hoya macgillivrayi. A strong succulent climber recorded only from the Iron Range of Cape York Peninsula in open rainforest areas, tree tops and along creek beds In nature the running stems grow to 6m in length In cultivation it has been grown as a container plant and allowed to climb on a trellis The outstanding feature of this plant is its flowers, usually borne in umbels of 6. The waxy red to purple flowers are up to 5cm across The flowers also give off a strong-scented perfume at night which may indicate it is pollinated by a night insect Most of the propagation to date has been by cuttings which are still in limited supply Propagation methods are the same as for exotic hoyas It is a desirable basket or tub plant, which requires a warm, filtered light location in Brisbane Glasshouse culture may be required during winter in the colder, southern states

Hoya* sp. *aff. rubida. This *Hoya* was collected from the Cape York Peninsula It appears to be more vigorous than *H. macgillivrayi* and the foliage is lighter green and furry to touch Flowers are not quite as large or waxy, about 3cm across and a pink-red colour Propagation and conditions as above but it appears to take winter cold better than *H macgillivrayi* Worthy of cultivation As yet only limited material is available

The Burra Range on the western side of the Great Dividing Range is a wealth of drier country grevilleas. The following are ones that will adapt to well-drained coastal gardens.

Grevillea decora. A dense or open, erect shrub to 4m height and spread with glaucous foliage It bears masses of dull-red, one-sided racemes along its branches The individual flowers of this genera are very large Propagation has only been from seed and these require scarification before setting

Grevillea pteridiifolia. A variable species occurring across North Australia It is available in prostrate form that produces true to seed, in shrub form and as an open, upright tree to 8m The Burra Range form is a tall shrub to about 3 to 4m and rather dense It produces heavy flowering of gold to orange toothbrush type flowers which are laden with nectar that attracts nectar feeding birds Seed set is heavy and, in nature, it is the food of seed-eating parrots, they can strip a plant of its seed rather quickly Propagation is mainly from seed and it is not unusual for seedlings to flower when 1-year-old This plant has been extensively grown in Brisbane as a garden and road side tree.

Grevillea sessilis. This is another another of the deeply-cut foliage, northern grevilleas Growth height is 2 to 4m with 1 to 2m spread Flowers are creamy, white-tipped with green on erect cylindrical racemes on the terminals of new season's growth. Propagation is usually by seed which needs to be scarified before planting. Seedlings usually flower in the first year of growth

***Grevillea* hybrid.** In the Burra Range there is a natural cross between *G pteridiifolia* and *G sessilis* It produces a compact, open shrub to 4m. Foliage is midway between the two, bearing the bronze-tip new growth of *G sessilis* The flower spike is cylindrical and buttercup yellow in colour Length and diameter of the flower is similar to *G sessilis*. Up to 12 plants of this cross were found on a field trip to the Burra Range in 1973. The best colour form has been grown successfully in Brisbane from cuttings A similar cross of garden origin from Myall Park, named *Grevillea* 'Sandra Gordon', is readily available on the local market, but it differs in the fact that this cross is lighter in colour and the flower has a flat back on it The growth habit is similar to *G pteridiifolia*. It has the advantage of being more floriferous but the disadvantage that it is a larger tree to 6m with a spread of 5m I think there is room for both of these hybrids on the market Propagation is from tip cuttings of new growth during summer

Melaleuca leucadendron. Weeping tea tree This is a large weeping broad or narrow-foliaged paper-bark tree to 15m ın height It occurs along river banks and flood plains from Rockhampton north along the entire Queensland coast, including the Gulf of Carpentaria Thıs large tree is noted for its impressive white paper-bark trunk and the masses of white bottlebrush type flowers produced during the winter months to early spring. The flowers are lightly honey-perfumed and attract nectar-feeding birds and insects The outer branches of some plants, especially the narrow-leaf form, are very pendulous This plant ıs usually propagated from seed but cuttings taken from the new spring growth will strike under mist This plant ıs extensively used ın Brisbane gardens and for park plantings, it is a far superior paper bark than *M quınquenervıa* that is normally planted in the south

Melaleuca viridiflora. Broad-leaf paper bark Is an open, upright tree to 8m in cultivation Because of its upright growth it is ideal for group planting in a small area It does best in a wet positıon as it is normally found in low flat areas that become swampy during the wet summer season Flowering is usually during winter, the normal colour of the bottlebrush-type flower ıs greenish-yellow, from which the plant derives ıts name However, there are many different colour forms available from soft pink to deep burgundy red, as well as white These colour forms are well worth propagating. They can be struck under mist using the new growth tip that appears after flowering in spring Natural range is from Maryborough north along the coast

Bowenia serrulata. Byfield fern This is not a true fern but a member of the Cycad family Other than the attractive leaf stems 1m high, most of the plant is below ground level. The underground tuber is usually about the size of a football and can be up to 30cm below the surface. The leaf petioles produce bright glossy green stiff serrated leaves along their multiple sub-stems These are noted for theır long life even after being cut The fruiting cones are produced on female plants at ground level. This plant is in danger of being wiped out by pine forests and development. It is a slow-growing plant in Brisbane gardens and may require pot culture in the southern states. In nature it is restricted to the Byfield and Shoalwater Bay areas of the Central Queensland Coast.

Blackdown Tableland ıs an elevated plateau ın Central Queensland which is lıke an oasis in a semi-arid region Its higher rainfall makes it a place where a lot of coastal plants and unusual indigenous plants are found. The area has numerous waterfalls and watercourses. Here is found an unnamed species of *Lıvıstona* palm Also growing here is a small semi-prostrate callistemon, as yet undescribed.

***Callistemon sp.* (Blackdown Tableland).** This is a low-growing, fine-leafed plant to 35cm in height and 1 to 2m in spread, growing in places amongst the rocks right to the water's edge. Its flower is a short, bright-red bottle-brush with striking yellow-tipped stamens It is easily propagated by cuttıngs and seed, but cuttings are recommended for maintaining the best plants of the species The plant has been successfully cultivated from Townsville to Brisbane

Grevillea longistyla. This low shrub-type grevillea is also on the drier, open-forest areas of the tableland and has been grown in coastal gardens, provided it is well-drained in elevated beds The flowers are large, orange-red, and borne in erect terminal racemes during late wınter to early summer Propagation is either by tip cuttings or by seed, that requires scarifying before planting

Acacia macradenia. An outstanding tall and spreading wattle to 3m with long, pendulous branches often to ground level Its common name, zig-zag wattle, is derived from the regular bending of the stems at each leaf node Flowering is prolıfic along the branches in approximately 8cm racemes of large golden-ball type flowers amongst the long, broad, bright-green phyllodes during mid-winter to early spring Seed set is usually heavy and is the main method of propagation used. The seed requires treating by the boiling water method or by scarification for successful germinatıon Natural distributıon of this plant is from Roma to

Clermont in Queensland, and has been grown in gardens from Townsville to Melbourne It will not survive the Canberra winter.

Acacia bancroftii. Restricted in nature to a small area from Kingaroy to Clermont in Queensland This small branching tree 3 to 5m in height with a slightly lesser spread and attractive blue-gray broad phyllodes is worthy of more cultivation in the drier areas of Queensland than at present Flowering is during winter in long racemes of up to 20 bright yellow globular flowers which make it a excellent acacia for garden use This species is usually propagated by seed, treated by boiling water or by scarification Seed of this species is not readily available because of the isolated distribution. This plant has been successfully cultivated in dry inland towns and the drier coastal regions of Rockhampton and Townsville

Lepidozamia peroffskyana. This is an attractive plant with palm-like, dark-green, glossy, pinnate leaves 2 to 3m in length, rising in whorls from a central crown at the apex of a short, extremely slow-developing trunk Natural habitat is restricted to the rainforest mountain ranges in S.E. Queensland and Northern New South Wales The palm-like apearance of this plant and its slow growth rate make it ideal for tub or indoor culture Belonging to the Cycad family, male and female cones are produced on separate plants The female cone is extremely large, 50 to 60cm long by 25 to 30cm in diameter Seed produced in this cone is about the size of a small hen's egg and has a bright yellow to orange covering The seed will usually germinate where it falls to the ground if moisture conditions are right In cultivation the seed is best set half exposed but can take up to 12 months to germinate

Millettia megasperma. Native wisteria (Figure 1) A vigorous climber from rainforest and creek banks, it can be easily grown in sub-tropical regions on a trellis or as a "standard" where it can be controlled by pruning In its natural habitat, Fraser Island, Queensland, to Ballina, New South Wales, it can cover very large trees. Spring flowers are 15cm upright racemes of mauve-purple-white which occur on a terminal Propagation is by the large, red seeds which are encased in a hairy, large bean-like capsule, usually containing 4 to 6 seeds.

Stenocarpus sinuatus. Wheel of Fire An attractive, deeply divided or entirely foliaged, tall tree which does well in cultivation, growing 8 to 10m. Natural habitat is from northern New South Wales, along the Queensland coast to Paua, New Guinea, in rainforest areas Flowers are the most distinctive feature of this tree, being bright red in umbels of 6 to 20cm in diameter, resembling a cart wheel Flowers are usually found on the old wood Propagation is usually by seed, the papery winged seeds are tightly packed in 6 to 10cm cigar-like capsules This plant has been used with mixed results as a street tree in Brisbane It is a common tree in older Queensland gardens

Backhousia citridora. Lemon ironwood For a tree to add lemon fragrance to a garden this plant is a must It is a small, densely leaved tree with foliage to ground level, 5m in height and 3m spread in garden cultivation The foliage when brushed or crushed emits a strong citrus odour Flowering is in summer with masses of white individual flowers in clusters on terminal branches. Natural range is from Brisbane to Mackay, usually in rainforest or west areas. Propagation is by tip cuttings or layering Seed propagation is difficult due to the trouble of finding viable seed and it is advisable to plant the entire capsule. It can be grown as far south as Melbourne

Barklya syringifolia. A shapely, dense-crowned small rainforest tree with bright green, glossy heart-shaped leaves Grows naturally from Brisbane to Mackay in coastal rainforests. The flowers are bright yellow to orange, held on a terminal, cylindrical raceme about 20cm long, forming a dense panicle The whole surface of the crown becomes a blaze of colour during spring into summer This plant is usually propagated by seed which are ripe about 4 months after flowering

Codonocarpus attenuatus. Bell tree A tree of 8 to 10m with grey, smooth bark and numerous pendulous slender branches with long, lance-shaped leaves It is usually found growing on the high dry river banks of the Brisbane river in the south to Central Queensland The tree is worthy of garden cultivation mainly for its weeping growth habit and the unusual bell-shaped seed capsules it produces in masses along the branches These capsules are about 3cm in length and 2cm in diameter When ripe they break open like layers of a paper Christmas bell to release a small kidney-shaped, hard, black seed. The seed is used for propagation Although seeds are numerous, germination is poor. Best results have been obtained by burning over the seed To my knowledge cuttings of this plant have not been tried

Davidsonia pruriens. An attractive single or multi-trunked upright rainforest tree to 8 to 12m with large pinnate leaves and elliptical leaflets to 20cm. Natural distribution is from northern New South Wales to North Queensland in rainforest areas The flowers produced on 30 to 35cm pendulous panicles are insignificant, but are followed by clusters of large plum-like fruits that turn deep purple when ripe, usually in late summer to early winter. The fruit has rich, red edible flesh and is used for jam making The new foliage and fruits are covered with a thin coating of short brown hair which causes irritation to some people Useful as a garden plant and for indoor use while still young It has been grown as far south as Melbourne

Evoida (Euodia) elleryana. This attractive dark green, trifoliate-leaved rainforest tree is ideal as a garden specimen tree in tropical and sub-tropical climates. It requires moist conditions and grows 8 to 15m in open cultivation. In its natural habitat from the Richmond River, New South Wales to North Queensland and Papua, New Guinea, it can reach a height of 30m The pink to mauve flowers are borne in dense panicles along the branches at each leaf node on last season's growth The flowering period is during the summer months for about 6 to 8 weeks The flowers are followed by attractive green seed pods which remain on the tree until early winter when they split to reveal a shiny hard, black seed. This seed germinates readily if sown in late winter to early spring Tip cuttings in summer are also successful

MACHINE PREPARATION OF HARDWOOD CUTTNGS

BEN SWANE

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I am sure many plant propagators still measure each individual cutting and still use secateurs (pruning shears). All the secateurs I have used in the past bruise the ends of every hardwod cutting and tend to split them, especially when the cutting material is of a large diameter, e.g. *Platanus* (plane tree).

I believe that better and more uniform cuttings can be produced by sawing; this is practicable even for small growers, especially for those who grow hardwooded plants, such as plane trees. Sawing of hardwood cuttings is clean and fast and leaves no bruising of the ends of the cutting.

The experience I have had with hardwood cuttings includes the following plants: