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**ASSOCIATION OF SOCIETIES FOR GROWING  
AUSTRALIAN PLANTS**

**MELALEUCA AND ALLIED GENERA STUDY GROUP**  
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**NEWSLETTER NO. 23    December 2001**

Dear Members,

In spite of a substantial deficit in rainfall from March to October the Callistemons in this area flowered very well over what appeared to be a slightly longer period than usual . Verna and I visited Cressbrook Dam, one of Toowoomba's water supply dams , in September where , among other plants, mainly Eucalypts, a number of **Callistemon viminalis** have been planted in the camping and picnic areas surrounding the dam . At the time of our visit the area was so dry all grass and other ground cover vegetation had disappeared and left only dust . The *C. viminalis* , however , were in full flower and attracting lots of nectar feeding birds and insects . As a matter of interest it was noted that virtually all the additional plantings in the camping and picnic areas were Australian species .

In November we spent a few days in the Tenterfield area of northern New South Wales . The area had received good rain and the green vista was in stark contrast to the dry , parched conditions which existed when we passed through that area in September 2000 . **Kunzea capitata** was massed with mauve-pink flowers on Mount MacKenzie which is just west of Tenterfield. In Bald Rock and Boonoo Boonoo National Parks **Callistemon pallidus** , **Callistemon flavo-virens** and **Callistemon viminalis** were flowering . **Leptospermum novae - angliae** was flowering on top of Bald Rock while, in Boonoo Boonoo N.P. **Leptospermum polygalifolium subsp, montanum** was flowering along Morgans Gully, a tributary of the Boonoo Boonoo River. It appears to be growing in solid granite but, obviously the roots are in cracks in the rock . Incidentally, Morgans Gully was a gold-mining area around 1860 but , from all reports, it was not a very profitable field. Some of the old gold-mining machinery is still scattered around the site. Among the other plants growing in the harsh Morgans Gully area were **Calytrix tetragona** (flowering finished but still carrying a lot of its brightly coloured calyx ) two species of **Prosthathera** which I couldn't identify and large patches of **Stypantra glauca** with masses of flowers on stems up to 1 metre tall . We called into Girraween National Park on the way home where **Callistemon linearis**, **Callistemon**

**pallidus**, **Leptospermum arachnoides**, **Leptospermum trinervium** along with many plants from various genera, including **Actinotus helianthus** with flower stems up to 1 metre tall, were flowering quite well. We came across a few terrestrial orchids in bud but failed to find any in flower. Girraween N. P. is also markedly greener than it was in September 2000.

### NATIONAL BOTANIC GARDENS OF BELGIUM

While "surfing the web" I came across an article advising that a living collection of Myrtaceae is being grown in the National Botanic Gardens of Belgium so I contacted the Gardens to endeavour to obtain a list of what was being grown. I received a prompt reply advising that 125 taxa from genera in the Myrtaceae family are being grown. All plants are grown in glasshouses, in pots, at a minimum temperature of 10 degrees C. The soil type being used is a mixture of coir (of coconut) 45%, loam 35%, and grit 20% to which of Osmocote 9-10-18 is added. Plants are repotted every year in spring. The plants are healthy and flower.

Flowering has been observed during the following weeks for the following species :

**Callistemon citrinus** ( weeks 8-46 ), **C. phoeniceus** ( 16-18 ), **C. salignus** (45 – 26 )

**Kunzea pedunculata** ( 20 )

**Melaleuca glomerata** ( 7,9,24-28, 37 ), **M. pauperiflora** ( 16 ), **M. radula** ( 9 ), **M. wilsonii** ( 14-18 )

There are no problems of pests or disease. Plants are watered every day.

Species and cultivars being grown which relate to this study group are :

**Callistemon** - brachyandrus, citrinus, comboynensis, cunninghamii, formosus, hortensis, jeffersii ( a form of C. citrinus developed in U.S.A. ) lilacinus, macropunctatus ( now rugulosus ), pachyphyllus, phoeniceus, pinifolius, rigidus, salignus, salignus var. australis, salignus var. viridiflorus, thymifolius and violaceus. N.B. Some of the species and /or cultivars mentioned are unfamiliar to us.

**Melaleuca** - armillaris, cuticularis, diosmafolia, ericifolia, genistifolia, glomerata, hypericifolia, irbyana, laterita, leucadendra, linariifolia, pauperiflora, priessiana, radula, stypheloides and wilsonii

**Leptospermum** - laevigatum, lanigerum,

**Kunzea** - pedunculata, pomifera

In addition to the species listed above 43 species of Eucalypt, *Baeckea virgata*, *Chamelaucium uncinatum*, *Lophostemon confertus*, 4 species of *Syzygium* ( not all Australian ), 11 species of *Eugenia* and a number of single species of many other genera are being grown .

Thanks are extended to Frieda Billiet, botanist in charge of greenhouses in the living collection section of the gardens for the supply of this information

### **AUSTRALIAN PLANTS IN JAPAN**

Alex ( Akiro ) Endo lives in Yokohama , Japan. He spent 5 years - 1987 to 1992 - in Australia and developed a love of Australian plants . After his return to Japan he missed Australia very much so decided to try growing some of the Australian plants he had grown to love . He obtained seed of Eucalyptus, Acacia, Banksia, Tree Ferns etc and was successful in getting them to germinate . His garden is only 60 square metres which tends to limit the number and size of plants he can grow . Another problem is the cold winter climate and the humid summer climate. As a result he has to nurse Australian plants in pots and take them indoors during winter. Alex has developed a web-site on which he has posted a number of photographs of his garden and lots of information regarding the development of his plants. His site is at - <http://www.goocities.co.jp/SweetHome-Brown/1908/index.html> and is well worth a visit . Alex's e-mail address is - <mailto:alex@kf.catv.ne.jp>

The latest report submitted by Alex indicates that the weather in Japan is getting very cold with snow having fallen in the northern parts of Japan. He indicates that Australian plants are becoming very popular in Japan with Acacia probably being the most popular where they are being planted as commemoration trees near new houses and in new gardens . A wide range of Australian plants and flowers, particularly those with aromatic foliage , is now available in nurseries . Some of the species readily available are : *Grevillea alpina*, *Acacia baileyana*, *Callistemon citrinus*, *Boronia spp*, *Rhodanthe manglesii*, *Leptospermum spp*, *Prosthathera spp* to name a few . Because many people live in flats with little or no garden space , container gardening is very popular and, according to Alex , is probably the typical Japanese gardening style. Mixed species are often planted in community pots with *Brachyscome spp* being one of the most popular.

### **MEMBERS REPORTS**

Andrew Wilson, from San Diego in California U.S.A., obtained seed from the seed bank in August 2001 and has sent details of the germination results obtained . Seed was sown in a mixture of coarse sand and sandy loam with the seed being sown on a thin layer of fine sand overlying this mixture. Seed trays were watered from below . Day-time temperatures ranged from 24 to 28 degrees C with night-time temperatures ranging from 16 to 20 degrees C.

From the second sowing **Melaleuca decora** germinated in 7 days with a good number of seedlings, **Melaleuca diosmatifolia** germinated in 10 days with a good proportion of seedlings appearing. **Melaleuca lanceolata (pink tips)** and **Kunzea recurva** gave fair germination results after 7-10 days. Poor germination results were obtained from seed of the following **Melaleuca** species - **lanceolata, pungens, huegelii (purple bud), tricophylla** and **conothamnoides**.

Andrew intends to carry out further germination experiments in the cooler weather with the ones which performed poorly this last time. No doubt he will advise the results in due course.

Margaret Moir, from Margaret River in Western Australia, sent in the following report in August 2001:

“ Food for thought in the responses of the Melaleuca et al tribe to our unusually dry summer, followed by a droughty and frosty winter. Our rainfall currently is at 45 % of normal, and is the first time it has been at this in recorded history. Sinister prospects indeed for the bush

The biggest surprise I guess has been Mel. *viridiflora* (red form) and Mel. *Argentea*. I planted a handful of these, tubestock, as a punt I guess, in the spring of 1999. Slow progress thro' the first summer and winter, but now, at about 1 metre tall appear to have sailed thro' the frostiest winter on record. Fingers crossed !!

One morning I found pots of *Acacia howittii* frozen solid, roots and all, where I'd foolishly left them out near those Melaleucas, it was so cold. The wattles pulled through unscathed and to my surprise so did the Melaleucas.

What a lovely graceful thing that Mel. *Argentea* is. I have to confess on my last trip to Broome, I was bitterly disappointed to see that instead of making use of beautiful things such as these in their landscaping, Broome was a desert of palms (and Boabs which they bring down from Derby)

Also faring well in the cold are my numerous *Callistemon salignus*, now warming up for their brilliant display of pink new growth. They have been plagued in the warm months with a tip moth which has hammered them mercilessly. (Editors Note - Tip moth also causes problems in this area in *Melaleuca* and *Callistemon* spp but there doesn't appear to be much that can be done about it - by the time you realise they are there the damage has been done) I have also learned that the ones grown from seed appear to be tougher in their young years, and faster growing, than the cutting grown ones. Maybe my conditions.

Amongst the new additions this year are a group of a very purple form of Mel. *fulgens*, close planted, flowering now (Aug 2001). They are in front of a row of *Leptospermum rotundifolium*, Jervis Bay form, I think. A couple of tubes of Lept.

rotundifolium ' Julie Anne ' have been very reluctant to come away . This is my first time with Lept. rotundifolium, but I like what I see. Not speedsters though

Lept. petersonii is a glamorous small shrub , becoming I hope a small tree. Gorgeous perfume , not used often enough in gardens in my opinion . Has anybody used the leaves in teas or cooking , like Backhousia ? ( Editors Note - L. petersonii was used quite extensively in gardens in Brisbane area up to a few years ago but it appears to have gone out of favour as it is not often seen in nurseries now . The leaves have been used to a small extent in cooking . A company in northern NSW distills an aromatic oil, similar to tea-tree oil, from the leaves )

Another odd thing has been my transplanting efforts with Mel. linariifolia purple form . Two of these were dug up rather hurriedly and brutally , and as I had run out of daylight I put them in a barrel of water. Usual disorganisation prevailed and it was weeks before I got to plant them out. They've been fine , whereas a Mel. thymifolia carefully removed, pruned and re-planted has shown no sign of life after a month. Could it be that the soaking in water has been a help. ? Just a thought . I gave the thymifolia auxinone, seazol and TLC but it hasn't helped.

The really striking Callistemon in flower at the moment is C. glaucus. A bit out of whack I know, must be the weird winter. Been flowering for months. Huge flowers and leaves, this is a bottlebrush on steroids !! “

Margaret also advises in a later communication she has found two interesting plants in her collection . The first is in a group of 20 or so of **Callistemon salignus** . This particular plant has the form , growth and height of the normal C. salignus but has less papery bark with strongly aromatic lemonish scented foliage and with large scarlet flowers . The unusual feature of this plant is that appears to be irresistible to nectar – feeding birds who have wrecked much of the foliage during their feeding frenzies . Maybe it is a hybrid of **C. salignus** and **C. citrinus** ?? The other interesting plant is a **C. glaucus** which has flowered in a deep raspberry pink colour. ( Editors note : one of the interesting things about growing plants from seed , particularly Callistemon , is that one is never quite sure what will eventuate . )

Martin Rigg and Diana Leggat have recently moved to a 16 acre block at Yackandandah , Victoria where they have planted **Melaleuca tricophylla** and **Melaleuca scabra** for starters. The block is described as having moderate to easy slopes with good drainage . The soil is deep weathered granite with a substantial coarse fraction in the soil and with low fertility which is often characteristic of granite soils . The block has a north-easterly aspect and receives full sun . Rainfall is reliable at 35 inches or 875 mm per year . There is some remnant forest along roads and gullies in the area but , generally, the block is grassland with some original native grasses . Nut grass may be a problem as it is , apparently, quite widespread on the property .

Paul Kennedy from Strathmerton , Victoria has forwarded a list of the **Calothamnus** species he is growing :

**Calothamnus validus** - two plants growing in clay loam soil which receives very little moisture in summer. The plants are 1.2 and 1.5 metres high respectively after 5 years growth. Attractive red flowers are usually seen in September and are followed by large seed capsules. The plants are frost hardy down to -6 degrees C. Foliage is terete and dark green in colour

**Calothamnus villosus** - this plant is growing in deep sand where it receives some moisture from watering of nearby *Prosthanthera* beds. At 3 years old it is 1.5 metres high with a spread of 1.5 metres. Flowers are produced during October. This plant is frost hardy down to -6 degrees C

**Calothamnus quadrifidus** - this plant has dark green shiny terete leaves. Two plants are growing in deep sand and receive some summer watering. These plants have grown to 1.5 metres high by 1.5 metres wide in 3 years and are frost hardy down to -6 degrees C

**Calothamnus homolophyllus** - This plant was considered to be frost tender but, following being frost tipped in its first year, it is now 3 years old and has grown to 2.1 metres high by 1.2 wide and is still putting on new growth ( report received mid-September - Ed ). It is growing in a protected position beside buildings in a deep sandy loam soil. It does not receive any supplementary watering during summer. The first flower buds were starting to appear at the time the report was sent and it was expected that flowering would occur in November.

**Calothamnus rupestris** - one plant which is 1 year old and has survived frost down to -2 degrees C. The plant is currently 0.5 metres high and is showing promise of growing well in sandy loam soil.

**Calothamnus gilesii** - one plant now one year old which has grown well to a height of 0.5 metres. It has not been affected by frosts down to -2 degrees C.

**Calothamnus kalbarriensis** - this is a smaller leaved species from the Z-Bend area of Kalbarri N.P. in Western Australia. The one plant in the garden is nine months old and was severely damaged by frost down to -2 degrees C even though it was covered with hessian to try to prevent frost damage. New shoots are appearing from the base of the plant ( Sept 2001 ) and, hopefully, it may withstand frosts in future years.

**Calothamnus macrocarpus** - this plant was nine months old and had grown quickly during summer in sandy loam. Frosts caused the bark at the base of the plant to split and the plant died

Jeff Irons from Heswall in England forwarded a report ( June 2001 ) on the condition of his garden following a very wet winter but, unfortunately, it didn't arrive here in time

for inclusion in Newsletter 22 - " sometimes the mail service just a'int what it oughta be " so it is being included here .

" Northern winter 2000/2001

This winter was exceptionally wet . In my case the garden was saturated with water from mid September 2000 to early May 2001. I was away when the entire garden was under a foot of water , so do not know how long it stayed like that. However, during the entire period the water table was, at best, 3 inches below the soil level. There was just one frost, a sudden night with a minimum of -7 degrees C. You can imagine the effect of that on turgid plants , with no thick winter cuticle.

All my Myrtaceae came through this ordeal with flying colours . The only one to suffer any damage was **Leptospermum scoparium** from Tasmania's Central Tableland . Several of the branches on the 3 year old plants died over winter. **L.blakelyi** surprised me by coming through the winter uninjured. In case you do not know it is found only in a couple of locations in the Blue Mountains. Both have sandy soil. Winters there are warmer than here, and a lot drier. Incidentally one of my specimens is totally prostrate , the others are small open shrubs. Four years old , they have yet to flower. Other plants from the same area have proved intolerant of our winters . I write on June 12<sup>th</sup> ( 2001 ) and we have not yet had a day above 14 degrees C . **Leptospermum lanigerum**, about 20 ft high , is in bloom. A purple flowered selection of **Melaleuca squamea** from Mount Read obviously loves this year's cool wet weather , and is putting on its best display ever. Perhaps **Kunzea muelleri** will delight me by flowering . It must be 10 years old and hasn't done so yet "

A subsequent letter from Jeff in August advised that he has had a contractor install new drains throughout the garden, put more soil on the lawn and re-turf it . New lawn/border edges of reclaimed sandstone have been installed and 3 tonnes of soil barrowed in for a new garden bed where eucalyptus species will be planted to screen a new housing estate . In this later letter Jeff advised that his **Leptospermum blakelyi** flowered for the first time. **Kunzea " Badja Carpet "** survived the severe winter but has not flowered this year , possibly because it has become partly overshadowed . Another interesting item from Jeff's last letter which relates to the aftermath of the foot and mouth disease outbreak is that ungrazed pastures are being invaded by bracken fern . Control costs are 370 Pounds Sterling per hectare but this does not give complete control as rhizomes persist in the soil for up to 10 years. Let us hope we never get an outbreak of it here !!!

Steve Clemesha from Emerald Beach in north-east New South Wales has been busy with the grafting tools and has successfully grafted **Kunzea baxteri** and **Kunzea pulchella** , which will not survive on their own roots in his area , on to **Kunzea ambigua** rootstock with good results. Steve is also growing **Kunzea pomifera** but, to date, it has not flowered . Steve believes it may require a colder winter than they get at Emerald Beach.

Liesbeth Uijtewaal from Holland continues to send lots of information in various forms. She is a member of the European Container Plants Society which recently conducted a substantial flower show. Liesbeth and her husband, Bert, erected an Australian plant display which featured an "Australian shed" complemented by large potted specimens of *Acacia retinoides* and *Acacia longifolia* on either side with a potted, flowering specimen of *Grevillea banksii* (appears to be about 1.5 metres tall) under the roof and a row of tall, flowering *Anigosanthus* spp behind a low picket fence out from the front of the shed. The Acacias are in 70 litre pots and appear to be approx 2.5 metres high. There are some other plants which I cannot identify from the photograph Liesbeth forwarded. A "Koalas Cross Here" sign on the front of the shed added a touch of authenticity. Liesbeth grows some 300 varieties of Australian plants in containers of various sizes. In some cases there is more than one plant of the particular species. Plants are grown outdoors during summer and moved into a glasshouse during winter. The glasshouse measures 15 by 10 metres with an extra 4 by 10 metres which has a normal roof on it where potting mix is stored and where potting on is conducted.

### GERMINATION TRIALS

When I took over leadership of the study group in 1990 a number of packets of *Callistemon* seed arrived with the rest of the paraphernalia. I have no idea of the age of the seed at that stage but assume it would have been a few years old. I decided recently to put some of this seed down to see what sort of results I may obtain as I have been unable to find any information relating to the viable life of *Callistemon* seed. Most of the seed I used was from the original lot but some is fresher. Details are as follows:

- C. linearis ( 2 pots ) - Good germination in both pots
- C. pinifolius ( green form ) ( 2 pots ) - 1 plant in one pot, fair germination in the other.
- C. sieberi ( 2 pots ) - very good germination in both pots
- C. sp ' Mt Mee ' ( 2 pots ) - good germination ( 5year old seed )
- C. chisholmii ( 2 pots ) - good germination ( 9 year old seed )
- C. rigidus ( 1 pot ) - good germination
- C. recurvus ( 2 pots ) - 4 plants only in one pot, fair germination in the other
- C. citrinus ( 2 pots ) - very good germination

Seeds were sprinkled on the surface of a premium potting mix in small square tubes and watered from below. Some seedlings had appeared after 7 days. There did not appear to be any further germination after the 10<sup>th</sup> day. I am afraid I didn't do a seed count at planting time so I can't give actual germination percentages. I was more interested in whether or not the seed was still viable.

Should any members have carried out germination trials, or know of any which have been conducted, I would be pleased to hear of them.

## **MULCH - THE GOOD , THE BAD AND THE DIRTY**

I thought you may be interested in the article below which was first published in Global Garden - [www.global-garden.com.au](http://www.global-garden.com.au) - and is reproduced here with their permission and with the permission of the author, Geoff Connellan , Principal Lecturer , Burnley College, University of Melbourne.

“ It takes just a few days of hot weather and our attention turns to the well being of the garden and if the plants have enough water. The natural reaction is to apply copious amounts whether it is actually required or not . Sometimes this is more for our own consideration rather than to satisfy the plant’s needs .

There are several strategies that can be used to prepare the garden to cope with hot, demanding conditions . The use of mulch is an important one of these strategies and is the cornerstone of a water efficient garden . Over the past two decades it has probably been the single most important technique or product to have an impact on Australian gardens .

The term “ mulch “ can include many different materials , such as plastics, paper, wool, stone, crushed rock, screenings or wood chips. Organic mulch, which consists of shredded or fine broken down vegetative matter , will be the focus of this paper.

The claimed water savings by using mulch range up to 50% however to achieve the benefits of mulch it is important to recognise that it does have some limitations .

The benefits of mulch can be categorised as follows :

- a. Aesthetically enhancing qualities
- b. Improved soil characteristics
- c. Water saving properties

Organic mulch can be very attractive as a landscaping technique as it can cover up a lot and provide a textured and uniform surface which is aesthetically pleasing . Being an organic material , it will break down in time and be incorporated with the upper layer of soil. It generally improves the properties such as water holding capacity and encourages microbiological and worm activity.

Water saving is achieved in a number of ways . A good covering of mulch prevents weed germination and growth and so eliminates a wasteful source of water use . Mulch also minimises evaporation from the soil surface and hence reduces losses from bare soil areas.

It has a good reputation as a water saving technique and rightly so ! However, if it is used in conjunction with inappropriate irrigation systems it does not provide the savings expected.

Two properties of organic mulch adversely affect the water needs of plants. These are :

- a. High water holding capacity
- b. High impermeability to water droplets

Mulch does not readily allow water to pass through it. It acts as barrier. Both rainfall and irrigation water can be prevented from entering the underlying soil by a layer of fine mulch. Both low precipitation rate or light rainfall and water applied as small droplets from sprinklers and sprays are trapped by the mulch. Organic mulches that consist of fine particles are very good at holding water. Tests carried out at Burnley College show that shredded pine based mulches , for example, can store 20 mm depth of water in an 80 mm mulch layer . This represents 20 litres of water for each square metre of the test mulch . The water stays in the mulch and does not drain through to the soil. With some fine microsprays it can take two hours or more just to wet the mulch . Light rainfall also just wets up the mulch . The soil does not benefit as much of the water is evaporated back to the atmosphere from within the mulch and so is lost and not available to plants

The method of application of water should be carefully considered when selecting irrigation applicators or outlets for mulched areas .

Irrigation equipment can be placed either above the mulch or below it . Drip irrigation systems can be covered by the mulch and will work very efficiently . The irrigation system is out of the way and the mulch maintains moist conditions without water lost by evaporation from the soil surface

If above mulch irrigation equipment is used, then spray outlets with very high precipitation rates should be selected. High precipitation rate sprays ( greater than 30 mm depth per hour ) or bubblers which produce a localised wetting by using high flow rates and small areas of coverage are recommended. Drippers can be used above mulch layers however it is important to select drippers with flow rates greater than 4 litres per hour so that there is enough flow to encourage water to drain through the mulch.

After the next rainfall or irrigation gardeners should dig up the mulch and see how far the water has progressed through the mulch layer. Don't assume that all the water applied to the surface of the mulch is beneficial to the plants . It could be wet on top but still drought-stressed underneath . “

Editors Note - We have not purchased any mulch since we moved here in 1979. We originally had a bare block of ground with a house on it and lawn on all the area not covered by the house. Lawn clippings were stockpiled for future use. As gardens were established these lawn clippings, along with clippings collected from neighbours and friends, were used as mulch . This was not entirely satisfactory as lawn clippings tend to ‘ thatch ‘ and reduce the rate at which water can enter the soil unless the mulch is loosened often . At least it was organic material breaking down to provide nutrients to the soil below and it was controlling weed growth . As the plants started to reach some

size leaf drop started to occur which tended to negate the "thatching" effect of the lawn clippings. Prunings, including small branches up to 80 mm diameter, were, and still are, cut up into approx 150 to 200 mm lengths and put back on the gardens. The cutting takes a bit of time but it is surprising how much plant material can be cut up in an hour or so. Very little pruned material is discarded. At present we have a mulch layer varying in depth from 100 to 150 mm and under this is a layer of decomposed organic material some 75 to 100 mm thick with lots of worms living in it. Sometimes the surface of the gardens does not look entirely neat and tidy but the decomposing plant material obviously provides plenty of nutrients as all plants are growing quite well. The rough surface provides homes for skinks, blue-tongue lizards, striped marsh frogs and numerous species of insect life. The only additional fertiliser applied is a light dressing of nitrogenous fertiliser (usually Nitram) each spring. The garden is watered by a permanent mini-sprinkler system. Each sprinkler delivers approx. 60 litres per hour (with some small variation depending on the water pressure at the time) and I have found that, to get reasonable penetration of water to the soil below the mulch, I need to run the sprinklers for about 4 hours at a time on a more or less weekly basis depending, of course, on rainfall received during the week. Lawn clippings are no longer used in their raw state as mulch but composted and used as top-dressing on lawns or incorporated into the mulch layer on the gardens. Excess lawn clippings are usually given away to friends who have large gardens.

Let me have some comments from members on your experiences with mulches.

### **FOLIAR FEEDING - FACT OR FICTION**

This article also appeared in Global Garden and is reproduced here with their permission and with the permission of the author Dr, Peter May, Deputy Head of Campus, University of Melbourne – Burnley College.

"Providing plants with nutrients remains a great mystery to many horticulturalists. The many options available (inorganic or organic?, soluble or slow release?, different nutrient combinations or ratios?, soil or foliage applied?) make decision making difficult. In this article I thought I would look at one of the components of this problem, that being the question "Can a plant absorb nutrients through its leaves and is this a viable option for gardeners to use?". Like the answers to many other horticultural queries, the answer is a qualified yes. Plants can absorb nutrients through their foliage but not in great quantity and sometimes not very quickly. Despite these limitations, foliar feeding is sometimes worthwhile to consider.

The usual uses of foliar fertiliser is in trace elements nutrition where the plant does not require large quantities of the nutrient in question. Since many trace element problems occur as a result of unfavourable soil conditions (for example high pH), foliar applications can sometimes be more effective than applying the fertiliser to the soil. Examples of the nutrients which can be applied in this case are zinc, manganese, copper and molybdenum. As an example, an application of molybdenum to cauliflower to overcome whiptail disorder would be 0.25 gram ammonium or sodium molybdate per

litre of water , applied as a spray early in the growth of the crop . This spray will be held on the foliage more effectively if a wetting agent is included in the spray ( because of the waxy nature of the leaves ) . Given that many trace elements can become toxic if excess is applied , the use of any trace element fertiliser should be based on an accurate diagnosis of a problem rather than an application , “ just in case “ .

Nitrogen is readily absorbed by leaves and foliar fertilising can be used to supply nitrogen. Urea is the best source of nitrogen for foliar use and many commercial products use urea as their nitrogen source . Check the product label if you are not sure . If you are using pure urea as a foliar fertiliser, make sure it has the impurity biuret at no more than 0.4 % . Again , this will be stated on the label. A foliar spray mixture for general use is 10 gram urea and 30 gram potassium per litre of water. For sensitive plants use this at half strength. A wetting agent will be useful if the leaves are waxy. To supply all of the plant's nitrogen needs through the leaves will require several applications because of the amount that a plant takes up, but foliar feeding can be a way of getting rapid absorption taking place . Should any of the spray fall onto the soil then it will behave as any other fertiliser and ultimately be absorbed by the roots.

One issue which one also has to consider here is that some elements are only absorbed into leaf tissue very slowly. In these cases foliar fertilising is unlikely to be of any real use. Two important examples of this are the elements iron and phosphorus. This is something of a pity as both of these elements can become unavailable in soil through unfavourable soil conditions.

So, in summary, foliar fertilising of plants is possible , but I am inclined to suspect that in most circumstances conventional means of providing nutrients are more logical solutions. “

Any comments from members on their experiences with foliar fertilisers would be appreciated.

### **SEED LIST**

A current seed list is attached . There are two additions which I received after the list was printed . These are : **Callistemon shiressii** and **Callistemon flavo-virens** . **Melaleuca systema** ( previously known as *Melaleuca acerosa* ) is also available . Some species of *Melaleuca* now have 2 or more subspecies or varieties but I am not sure which subspecies or variety I have in the seed bank . The relevant species are : *M. acuminata* - subsp *acuminata* and subsp *websteri* ; *M. armillaris* -- subsp *akineta* and subsp *armillaris* ; *M. huegelii* - subsp *huegelii* and subsp *pristicensis* ; *M. incana* - subsp *incana* and subsp *tenella* ; *M. macronychia* - subsp *macronychia* and subsp *trygonoides* ; *M. nervosa* - subsp *nervosa* and subsp *crosslandia* ; *M. pauperiflora* - subsp *fastigiata* , subsp *mutica* and subsp *pauperiflora* ; *M. pentagona* - var. *pentagona*, var. *raggedensis* and var. *latifolia* ; *M. viminea* - subsp *appressa*, subsp *demissa* and subsp *viminea* .

Some species which are currently listed as "Melaleuca" do not fit the concept of Melaleuca as adopted in the recent revision and their taxonomic position is being reviewed. These are - *M. citrina*, *M. pungens* and *M. thymoides*. When their position is finally determined I will advise you.

There is no limit on the number of requests for seed which may be submitted by any member in any one year.

Paul Kennedy is looking for seed of *Callistemon forresterae* and for seed of all *Calothamnus* species except *vallidus*, *villosus*, *quadrifidus*, *homolophyllus*, *rupestris*, *gilesii*, *kalbarriensis*, *macrocarpus*, *chrysantherus* and *asper*. Should anyone be able to assist Paul in his search it would be appreciated. His postal address is given in the membership list.

### **REGELIA - THE GENUS**

There are 6 species in the genus *Regelia* - 5 from south west W.A. and 1 from the sandstone escarpments of Arnhem Land in the Northern Territory. The genus was described by Schauer in 1843 from specimens collected by Preiss from the Vasse River area and from James Drummond. The genus consists of small to large woody shrubs with small, opposite or spirally arranged leaves, usually slightly hairy. Brief descriptions of the species within the genus are as follows:

***Regelia ciliata*** - grows in sandy and silty soils in the Moore and Vasse River areas of south-west WA. It can grow to a height of 2 metres with a similar spread. Dense heads of mauve flowers are produced over a fairly long period during spring and summer.

***Regelia cymbifolia*** - grows in a restricted area in south-west WA in grey or yellow sands in sandplain or Eucalyptus wandoo woodland. This is a bushy erect shrub to 2 metres in height with tiny, dark green ovate leaves. Terminal deep pink to purple flowers are produced in small clusters in spring.

***Regelia inops*** - a small open shrub, widely distributed on sandy soils in the south-west of WA, which may be from 60 cm to 2 metres in height with tiny leaves pressed to the stem. The mauve flowers, which may be terminal or carried on small lateral branches are seen in late spring.

***Regelia megacephala*** - a tall straggly shrub to 3.5 metres high with a spread of 1 metre or so. It grows on rocky quartzite hills in the south-west of WA. Heads of mauve flowers some 1.5 cm in diameter are produced in late spring.

***Regelia punicea*** - this plant was previously known as *Melaleuca punicea*. It grows on the sandstone escarpments of Kakadu National Park and is a tall spreading shrub to a height of 2.5 metres with a spread of some 3 metres. Small leaves, about 1.5 mm long, are spirally arranged around the stems. Terminal red flowers are seen during the dry season from June to August.

**Regelia velutina** - found on quartzite rocky slopes in south-west WA overlooking the Southern Ocean . It may be an erect or spreading shrub to 3 metres. Terminal spikes of red flowers , tipped with yellow anthers, up to 4 cm long are produced during spring. This is a very spectacular shrub when in flower.

### SOME NORTHERN AUSTRALIAN LEPTOSPERMUMS

Some brief descriptions of some of the Leptospermum species from Northern Australia are as follows :

**Leptospermum pallidum** - found in the Greenvale area north of Charters Towers and in the Porcupine Gorge area north of Hughenden in North Queensland. It grows on lateritic ridges , often on cliff edges with skeletal soils . A spreading , rough -barked shrub to 3 metres high . Leaves are quite large being 35-52 x 5-9 mm , triple-nerved and with numerous oil glands. White flowers to 10 to 15 mm in diameter are produced on short axillary shoots in groups of 2 to 3. .

**Leptospermum madidum** - previously known as *L. longifolium* , this shrub can grow to 8 metres . It has pendulous branches and deciduous bark which may be white, creamy or pink. Leaves are 22-70 x 1-9 mm . White flowers, up to 5-7 mm in diameter are axillary. Two subspecies have been recognised - subsp *madidum* is confined to the northern section of Cape York where it grows on freshwater stream banks in sandy soils . The other subspecies - subsp *sativum* is found in the Bungle Bungle Range in the Kimberley area of northern WA and in the Darwin and Kakadu National Park areas of the Northern Territory.

**Leptospermum venustum** - from the Eidsvold area of the Burnett region of Queensland , some 200 km west of Maryborough. . It can be a spreading shrub to 2.5 metres high with arching branches and rough grey bark . Leaves are 6-13 x 3-4 mm with numerous oil glands . Young leaves have long marginal hairs . It grows in granitic soils on hillsides or near small streams . It is usually found in Eucalypt woodland . Deep pink flowers are 18-25 mm in diameter . ( Editors Note - I have tried to grow this species but , to date, I haven't been successful . I have been able to keep it growing for a while but have been unable to get it to the flowering stage . There is reported to be a plant growing in a garden in the Redcliffe area, to the north of Brisbane, which has produced flowers but I have not seen it )

**Leptospermum amboinense** - this species grows in the northern part of Queensland from Bowen north to about Cooktown and it is also widespread in Malesia where it occurs in Malaya, Sumatra, Borneo, Sulawesi, the Moluccas, Flores and the Phillipines . It can grow to 9 metres with rough grey or brown bark which is fibrous and longitudinally fissured . White flowers, 12-18 mm diameter , which are produced on short side branches are seen in summer

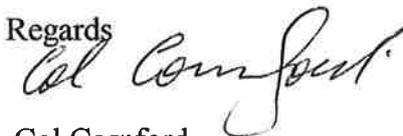


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APS Victoria Inc, P.O. Box 357, Hawthorn, Business Centre, Vic 3122  
APS Maroondah Inc, P.O. Box 33 , Ringwood, Vic 3134  
APS Tasmania Inc, P.O. Box 75 , Exeter, Tas 7275  
SGAP Canberra Region Inc, P.O. Box 217, Civic Square, ACT 2608  
SGAP Blue Mts. Group, c/- C. Farrugia, 12 Grandview Ave. Seven Hills, NSW 2147  
APS South Australia Region Inc, 5 Marram Terrace, Largs North, S.A. 5016  
SGAP Queensland Region Inc, P.O. Box 586, Fortitude Valley, Qld 4006  
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Payment is also received from ASGAP to cover the cost of supply of Newsletters etc to members of the executive of that organisation

I hope you all have a happy Christmas and that the New Year will be kind to you

Regards



Col Cornford.

SEED LIST - DECEMBER 2001

MELALEUCA

acuminata  
 adnata  
 alternifolia  
 arcana  
 argentea  
 armillaris  
 bracteata  
 brevifolia  
 calycina  
 coccinea  
 conothamnoides  
 cardiophylla  
 citrina  
 cordata  
 cornucopia  
 cuticularis  
 dealbata  
 decora  
 decussata  
 densa  
 diosmafolia  
 diosmatifolia  
 eleuterostachya  
 elliptica  
 ericifolia  
 fabri  
 fulgens  
 fulgens var. corrugata  
 gibbosa  
 glabberima  
 glomerata  
 halmatororum  
 huegelii  
 huegelii ( purple bud )  
 hypericifolia  
 incana  
 laterita  
 laxiflora  
 leucadendra ( broad-  
 leaved form )  
 linariifolia  
 linariifolia ( Snowstorm )  
 linophylla  
 macronychia  
 megacaphala  
 microphylla  
 minutifolia  
 nematophylla

MELALEUCA

nervosa  
 nesophila  
 nodosa  
 pallescens  
 pauperiflora  
 pentagona  
 pulchella  
 pungens  
 quinquenervia  
 radula  
 raphiophylla  
 sapientes  
 scabra  
 scabra ( tall form )  
 scabra ( dual colour )  
 sieberi  
 sp.aff.cornucopia  
 sp.aff.globifera  
 sp. aff. microphylla  
 spicigera  
 squamea  
 squarrosa  
 striata  
 stypheloides  
 suberosa  
 subfalcata  
 tamariscina  
 teretifolia  
 thymifolia ( upright form )  
 thymifolia ( mauve )  
 thymoides  
 thyoides  
 tricophylla  
 tricotachya  
 uncinata  
 undulata  
 viminea  
 violacea  
 viridiflora ( red )  
 viridiflora ( burgundy )  
 wilsonii

CALLISTEMON

" Adina "  
 chisholmii  
 citrinus  
 comboynensis

CALLISTEMON

" Endeavour "  
 " Guyra Hybrid "  
 linearifolius  
 linearis  
 " Mr. Foster "  
 " Mrs. Foetel  
 pachyphyllus ( green )  
 pachyphyllus ( red )  
 pallidus  
 pauciflora  
 pearsonii  
 phoeniceus  
 pinifolius ( green )  
 pinifolius ( red )  
 ptyoides  
 polandii  
 polandii ( broad-  
 leaved form )  
 polandii ( Pyramid form )  
 " Purple Splendour "  
 " Pgymy Pink "  
 recurvus  
 rigidus  
 rugulous  
 salignus ( white )  
 sieberi  
 sp. aff. acuminatus  
 sp. ex Malawi  
 sp.  
 sp. ( red )  
 sp. ( red )  
 sp. ( Mt Mee )  
 teretifolius  
 viminalis " Malawi Giant "  
 violaceus  
 viridiflorus

LEPTOSPERMUM

arachnoides  
 continentale  
 continentale  
 " Horizontalis "  
 coriaceum  
 epacridoideum  
 erubescens  
 glaucsecens  
 grandiflorum

LEPTOSPERMUM

lanigerum  
 laevigatum  
 minutifolium  
 neglectum  
 nitidum  
 obovatum  
 " Pacific Beauty "  
 polygalifolium  
 rotundifolium  
 rupestre  
 scoparium ( Mt. Field )  
 scoparium ( Apsley Tas. )  
 scoparium var eximium  
 semibaccatum  
 speciosum  
 spectabile " Rhiannon "  
 spinescens  
 squarrosus

CALOTHAMNUS

asper  
 chrysantherus  
 quadrifidus  
 rupestris  
 sanguineus  
 validus  
 villosus

KUNZEA

ambigua  
 baxteri  
 capitata  
 parvifolia  
 pomifera  
 recurva

REGELIA

cymbifolia  
 inops  
 velutina

PHYMATOCARPUS

maxwellii