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**Next Meeting : We have Liftoff.** Our first meeting back will be **on 19<sup>th</sup> April**, commencing at 8pm.

**Venue : The West Lindfield Community Hall, corner of Bradfield Rd and Moore Avenue, West Lindfield.**

The hall is open from 6.30pm. We need helpers to set up tables and chairs etc. Please try and get there early and bring your disposable gloves. We will have sanitizer available.

**Some special changes will have to be implemented to get us back underway.** Our President explains it all on page two so please make sure you read it all and know what is happening and what isn't. Please note that if you would like to attend you must pre-register, as explained by Dennys on page 2. As this is our first meeting back, please be patient, friendly, and all work together to make the meeting a success.

**The March Virtual Bench** – For a year now we have been enjoying sharing pleasure in our hobby and helping everyone learn a little more each month. I can't believe the fantastic job Jenny has done in taking your generously shared pictures and turning them into a readable pleasure manual of orchid delight and information. Thank you so much for all the research and effort that has gone into it, and thank you to all the members for going to the trouble of taking such great pictures and sending them in.

**My Favourite this Month – Wilsonara Tan Treasures 'Brown Sugar' 'benched' by Lina Huang**

What a delightful, rich blend of colour. I don't think the 'brown' in the name does it any justice at all. Well done Lina.

Intergeneric Oncidiinae hybrids like this one are great value these days. They are bred to be hardy, easy to flower and very, very showy. Unfortunately, with changes to the taxonomy of the Oncid. family in recent years, the man made genus Wilsonara no longer exists. The name was invented to describe a hybrid involving a mix of Cochlioda, Odontoglossum, and Oncidium, but Odontoglossum has since been disbanded with most of its species shifted to Oncidium and a few moved to become Rhynchostele. In addition, the genus Cochlioda was folded into Oncidium, so Lina's lovely orchid is now officially an Oncostele – a mix of just Oncidium and Rhynchostele.



Despite the changes, Tan Treasure is a complex mix of at least 13 different species with part of its genetic background even being listed as 'unknown'. 12 of the known species contributors, are now Oncidiums, and one, – 'Odont.' uroskinneri is now a Rhynchostele.

These 'intergeneric' Oncids (or what used to be intergenerics, like Wilsonara, Burrageara, Colmanara, Odontocidium, etc) seem to like good light. Similar to that for Cattleya but perhaps a tad less if that is a measurable amount (perhaps 2000 foot-candles - see page 2 for more info). Also, in my opinion, because some of the background species come from higher elevations, they don't seem to like those dry, stinking hot days we sometimes get in summer. Rather than hang them up, I grow mine on the bench among other plants so that they benefit from the more humid environment around them. Repot every couple of years to make sure the mix doesn't get too stale and airless, and keep watch for pests like mealy bug and boisduval scale. If either gets a hold they are hard to control and they damage the plant badly.

Then, just fertilise regularly, grow, and enjoy the flowers. At the right is a 'Brown Sugar' grown by a specialist nursery and staked so the flowers present upright. Not bad eh?



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**Society News** (if anyone has a news item, please phone Jim on 9476 3383, or email at [jimbrydie@aussiebroadband.com.au](mailto:jimbrydie@aussiebroadband.com.au))

**President Dennys' Desk** – Hopefully most members should now be aware that we will be attempting to restart our meetings on the 19th April. **If you intend to come, you must pre-register (see below).**

**Also, until we see how it works out please only bring a maximum of 3 plants.**

**Registering :** We will be catering for a maximum of 40 members as attendees. We have 35 registered so far and if we go over 40, we will put you on the waiting list. If you have already indicated that you are coming and are no longer able to do so, please let me know so we can move down the waiting list. If you would like to come please advise me as soon as possible, how many in your party via the KOS email address or SMS me on 0438877689 with “KOS 19th yes and attendees names”. If you are not sure about using SMS then ring me on 0438877689.

The meeting will start at the normal time of 8 pm but there will be no culture class until we see how the evening adventure works. We will need folk there from 6.30 pm to help setup and think through the best setup that will work for us. My back is crook these days, so the more folk involved the better.

We will not be running supper but will have the urns running so **please bring your own hot beverage mugs as well as tea/coffee/sugar/milk makings for tea/coffee**. We will be running the sales table but without a member's plant sales service this time. The raffle will also be run. A list of COVID plan procedures that we will need to follow will be provided in company with this bulletin.

**\*Generally, there will be a need to record your attendance. A QR code entry requirement will be available in the foyer, so bring your mobile phone. If you are unsure of how to do this some help will be available. We will also have a book to record those present as a backup.** We will have sanitiser on hand.

\*We will still have to commit to pandemic restrictions and the seating will need to be spaced accordingly. To accommodate this requirement, we will need to limit the benching tables along the street wall, but we should be able to use the entry foyer space to buffer our efforts.

**The Sales table will be operating, but only for pots and supplies.** There will be no member's plant sales this time.

Virtual benching – The next VB will be our last issue so, please send in some photos to mark the end of a wonderful initiative, managed beautifully by Jenny, with wonderful assistance from Jim.

Member's welfare – please remember, if you need to speak to someone immediately then you are most welcome to contact me at any time, 24/7 on 043 88 77 689.

**Future Events** (\*\*All events are being planned but due to Covid-19 there is a possibility that these may be cancelled)

- 10<sup>th</sup> – 12<sup>th</sup> June - North Shore O.S. Autumn Show at the St Ives Shopping Village. (set-up on Wed evening 9<sup>th</sup>, pull-down on Saturday afternoon 12<sup>th</sup>).
- 26<sup>th</sup> & 27<sup>th</sup> June - Mingara Orchid Fair held at the Mingara Recreation Club at Tumbi Umbi. This will be the first Orchid fair to be held this year. Free entry and plenty of free parking.
- 15<sup>th</sup> – 17<sup>th</sup> July - North Shore's Winter Show at the Gordon Shopping Centre. (set-up Wed evening pull-down Sat afternoon 17<sup>th</sup> July).
- 13<sup>th</sup> – 15<sup>th</sup> August, St Ives Orchid Fair. At this stage we are still planning for the St Ives Orchid Fair with the hope that it will go ahead. We will keep all advised as we get closer to the date.

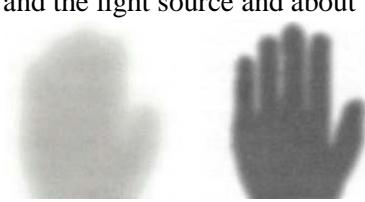
### **The correct light??**

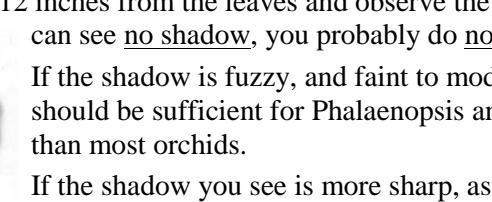
The technical measures for light levels are foot-candles or lux. One foot-candle = 10.76 lux. As an example, the illumination level inside a supermarket, which may seem bright, is only around 500 foot-candles, which would be too low for orchids. There are published lists for how much light various genera seem to prefer, usually expressed in foot-candles, and the recommended levels for some of the most popular groups are:

Genus	foot-candles	Genus	foot-candles	Genus	foot-candles
Phalaenopsis	1,000 to 1,500	Paphiopedilum	2,000 to 3,000	Cymbidium	2,500 to 4,000
Masdevallia	1,000 to 2,500	Cattleya/Laelia	2,500 to 3,500	Vandas	2,500 to 4,000
Dendrobium (shade types)	1,500 to 2,500	Dendrobium (hard & softcanes)	2,500 to 4,000	Oncidium (varies by type)	2,000 to 4,000

Note that some of these are very large genera and within a genus some types require much more light than others.

While the most accurate way to measure light levels is to purchase a light meter, you can get a pretty good estimate just using your hand. On a clear day, in your growing area, position yourself so that your hand is between your plants and the light source and about 12 inches from the leaves and observe the shadow (if any) that your hand casts. If you can see no shadow, you probably do not have enough light for almost any orchids.

If the shadow is fuzzy, and faint to moderate, as per the left image, your light level should be sufficient for Phalaenopsis and Paphiopedilum which require less light than most orchids.

If the shadow you see is more sharp, as per the right image, you most likely have sufficient light for all but the highest light-requiring orchids like Cymbidiums, Vandas and Ascocendas.

## Orchids from the Virtual Benching -- Jim Brydie

### 1. *The Cattleyas* - benched by many - Here

at Ku-ring-gai, we are very lucky to have some of the best 'Cattleya' growers in the country. Every month they show us what magnificent queens of the orchid world this group really are.

I can't mention all the great growers, and I don't wish to offend anyone by leaving someone out, but I have to say that Trevor and Pauline Onslow are masters of the art,

and so are the Bromleys, and the Cushways and others as well. The two gorgeous pictures above were Trevor and Pauline's offerings in this month's virtual benching. Both are orchids I have long admired. Of course, when I say "Cattleyas" you all know that I mean the whole range of species and hybrids in the Laeliinae family, and mostly the larger flowered types involving Cattleya, Laelia, and Rhynchostele, but also encompassing all the other genera as well. In other words, the big flossy, showy ones.

I have always loved the big lime green *Erin Kobayashi*. There are 4 different awarded cultivars and they aren't all the same. I am pretty sure Trevor's picture is 'Lahaina Gold' but the pictures in Orchidwiz unbelievably show several completely different flowers with that name. Many other cultivars have different variations of pink or purple red lips. But for me the deep lime of Lahaina Gold with its glowing gold centered lip is the one. I grow several plants of this in my shadehouse and just love the flowers when they come. I bench them proudly but I can still admire what a master grower can do with the same plant when I see it. And how about that fiery lip in *Toshie Aoki*. Wow. They are all magnificent Trevor and Pauline. And the pictures are top class too.

Maybe it's time to get our gurus together to tell us second graders what we need to do to do it slightly better.

### 2. *Oberonia crateriformis* (or *Oberonia titania*?) - benched by Peter and Jane D'Olier

This is a delightful little species, and one I hadn't heard of before. It seems it was published as a species by David Jones in 2006 and appears in his delightful book 'Native Orchids of Australia' also published in 2006. In Orchidwiz it doesn't appear in a search of species names but if you look up *Oberonia titania*, it shows *crateriformis* as a synonymous published name that isn't accepted.

#### The D'Olier's *O. crateriformis*

In Native Orchids of Australia, Jones also separately describes both *O. crateriformis* and *O. titania*, so it seems that he clearly believes they are distinct species. He states that *crateriformis* is endemic to Qld and is found from Mt Misery (inland from the Gold Coast) to Eungella (in from Mackay). For *O. titania*, he says it comes from Norfolk Island and New Caledonia. He separates the two on the basis of a crater like depression in the lip of *crateriformis*.

Previous descriptions all say *O. titania* also occurs throughout northern Qld, so perhaps Jones considers all the Australian populations of what was described as *O. titania* to really be *crateriformis*.

Pictures of both species show a range of different colours, flower density, and leaf form, so it would be unwise to try and separate one from another on outward appearances.

Whether in the fullness of time they are officially separated we will have to wait to see.

I still grow a plant of *Oberonia titania* that Bryan Spurrs gave me a couple of years back (thanks Bryan). It is just a beautiful, dainty little thing, but nowhere near as big as in this picture. The picture is to show you the potential. These are both warm growers but I only keep my glasshouse to a min 8-10°C and 'titania' grows there quite happily. A lovely plant to acquire if you find one available. By the way, the individual flower size of each is less than 2mm. Not quite Cattleya size. The inflorescence can get to around 15 cm.



3. *Galeopetalum Arlene Armour 'Conching'* ? - benched by Kitt Reyes - What a strange but eye catching flower. I rather like it and I am not sure why. It is kind of like an exotic South American dancer in a long skirt. But unfortunately, I wonder if it may be a wrong label.

There are many published pictures of *Galeopetalum Arlene Armour 'Conching'* but to me, Kitt's lovely orchid doesn't look like those. Although, the flower to the left does have a flatter lip. So far I have been unsuccessful in finding anything else with a folded lip like Kitt's. The only Zyg alliance hybrids I can find with any thing like that shape, are those with *Zygosepalum*, and even they aren't that close. Does anyone out there recognise it? It is so unusual and interesting that surely it would have been commercially exploited?



**4. *Trichocentrum*** – In the March virtual benching, Trevor and Pauline Onslow benched a lovely *Trichocentrum* called Windward Beauty. But what is a *Trichocentrum*?

Well the answer to that is a little complicated. Trevor's lovely Windward Beauty (pic on the right) is one of the group that we used to know as 'mule ear Oncidiums'. There have long been *Trichocentrum*s but it was relatively recently that the 'mule ears' were transferred there, after being in *Lophiaris* for a while. All *Trichocentrum*s share the same technical flower characteristic that defines the genus (a floral spur which is part of the lip and not an extension of the column as in other Oncidiinae), but the mule ears are rather different looking as a plant group within their new genus.



And if you were wondering why 'mule ears' were called mule ears, then take a look at the left of a wild 'mule ear' growing on a tree in Florida. And the lower picture of a real donkey featuring its ears. The leaves of the larger 'mule ear Oncids', have huge upright leaves, up to 30cm, just like the ears of a donkey or mule. Which brings me to perhaps a silly side question.

donkey



Why mule ears and not donkey ears? In case you didn't know, horses and donkeys are different species with different numbers of chromosomes. A mule is a hybrid between a male donkey and female horse. A hinny is the offspring of a male horse and female donkey. Both those hybrids are sterile because of the chromosome mismatch. Horses have short ears, donkeys very long ears and as far as I can see from pictures (I have no other expertise in horses, donkeys and mules) I think a mule's ears are just a bit shorter than a donkey's, which I guess makes sense. Now as Donkey's ears are the longer, why wasn't it 'donkey ear Oncid's'. This question makes absolutely no difference to anything in the world but aren't such little curiosities fascinating?

Anyway, getting back to the subject, mule ear *Trichocentrum*s are beautiful and majestic orchids where both the plant form and the flowers are impressive. However, they are pretty much all warm growers so if you have a mind to try them at some stage, make sure you have the required environment in which to grow them. The spikes are tall and branched so your glass house needs light, warmth, and a tall roof. There are a few *Trichocentrum* hybrids that just about grow cold in more moderate parts of Sydney. I even found one I could grow successfully in my roofed shade house, but when it finally flowered, I found that its flowering time in late autumn was an even bigger problem. The first lowish temperature spell of autumn saw all the developing buds fall off the spikes and I finally accepted that these beauties were not for me and sold off all survivors. Maybe if you live in a milder location you could succeed.

I doff my cap to Trevor, who grows these cursed things beautifully. We don't live far apart but I put my failure down to the fact that he lives higher up the same ridge and his growing area is attached to his house making it more protected. (It can't possibly be because he is a better grower, can it?)

##### **5. *Aerangis mystacidii* – benched by Peter and Jane D'Olier**

Now this one is more my speed. A gorgeous small species from southern Africa.

There are 53 species of *Aerangis* and I have written about them a few times previously. Most are found only in Madagascar and its nearby islands like the Comoros, but some, are also found through parts of Africa.

*Mystacidii* is one that comes from southern parts of Africa. They are epiphytic, or occasionally lithophytic (rock surfaces), and prefer shady, warm, humid areas. But despite that, I have found them to be one of the more growable species. When fully mature, an *Aerangis mystacidii* can have up to 4 simultaneous inflorescences, each up to 30 cm long and each with a dozen 2.3 cm flowers in offset pairs down the flower stem. The picture at the right isn't Peter and Jane's because although their plant is growing well, it is still developing and hasn't quite reached maturity yet and I wanted you to see what an older plant looks like. It is impressive, isn't it.

Some commonly grown *Aerangis* are *articulata*, *biloba*, *citrata*, *cryptodon*, *ellisii*, *hyalooides*, and *modesta*. There are



also about fifty registered Aerangis hybrids. Surprisingly I have only ever seen one, but that one sure was something spectacular so perhaps some of the others are worth looking for as well.

Nearly all Aerangis have just pure white flowers but there are a couple of species in orange tones and one - luteo-alba, has that beautiful red dot in the centre and is always highly sought after. Unfortunately, luteo-alba also has a reputation for being a very cranky little orchid to grow.

There seem to be two distinct growth styles for Aerangis. First, the usually shady, moist growers, have soft, flat, dark green leaves much like those shown in the feature picture of *mystacidii*. Others of this type would be *biloba*, *citrata*, *modesta*, and *luteo-alba*.

The other type grow in more exposed circumstances and have stiffer, more upright leaves in a more grey green colour. The plant itself also grows in a more upright fashion, and the picture of *Aerangis cryptodon* above is a good example. Another is *Aerangis ellisii* shown here in the picture to the right growing in its natural habitat on a high rocky outcrop.

Obviously, these types are more hardy and adaptable but sometimes you might say they are also a little less spectacular.

Interestingly, the hybrid I mentioned earlier is Elro, which is the cross between the species *modesta* and *ellisii* which represent both 'types' of Aerangis and it looks more or less middling between the two as well. Elro has given Elro hardiness and tolerance of a wider range of growing conditions. I grow mine in my unheated but roofed shade house and it flowers reliably for me every year. Although, I would have to admit Garrie Bromley grows his better and gets better flowering in a less harsh environment. Elro was developed by a South African orchid nursery in 2009 and an Australian nursery imported a batch of them shortly after. The picture here is from the Sth. African nursery and you can see what a spectacular flowerer it is and the conditions under which it was being grown in the open.

In regard to culture, although one or two species seem to tolerate pot growth, all are much happier mounted or at the very least grown in slatted baskets or Vanda pots. Even the lovers of shade and humidity don't like their roots covered. They are true air plants.

For the shade lovers, mounting will mean you have to water or spray them a little more often to keep them moist and the humidity high. I grow mine hanging from the edges of the benches in the glasshouse and they seem quite happy there. They are more shaded than those on the bench, get good air flow down the aisle from the constantly running fan, and are low enough to the floor to benefit from good humidity.

Of the dryer types, I only grow *cryptodon* and Elro, and both live relatively happily in my shade house. Elro is in one of those plastic mesh sided Vanda pots in an open medium, and *cryptodon* is in a small slatted wooden basket in practically nothing. Perhaps just a few chunks of coarse bark.

Keep your eye out at upcoming fairs for an Aerangis but because each is different, try to give them the environment they need. They are well worth the effort.

**Neville, the boat owner --** The Australian Tax Office believed a boat owner wasn't paying proper wages to his help. An agent from Wollongong was sent to the fishing village of Kiama to investigate the boat owner.

**Govt. Agent :** *"I need a list of your employees and how much you pay them".*

**Boat Owner :** "Well, there's Clarence, my hired hand. He's been with me for 3 years. I pay him \$200 a week plus free room and board. Then there's the mentally challenged guy. He works about 18 hours every day and does about 90% of the work around here. He makes about \$10 per week, and pays his own room and board. I buy him a bottle of rum and 3 dozen stubbies every Saturday night so he can cope with life.

Oh, and also, he gets to sleep with my wife occasionally".

**Govt. Agent :** *"That's the guy I want to talk to - the mentally challenged one".*

**Boat Owner:** "That'll be me. What'd you want to know?"

### Never lose your grandson

My small grandson and I became separated while shopping in the mall and he was lost. He approached a uniformed security guard and said : "I have lost my grandpa!"

The guard asked " "What's his name?" and the little boy replied "grandpa"

The guard smiled and asked : "what's he like?" The little guy paused for a moment, thinking hard, and then said "Crown Royal whiskey and women with big breasts."

**Dating Column in retirement Village Newsletter** - Male, 1932 model, high mileage, looked after and in good condition, some hair, many new parts including hip, knee, cornea, valves. Not in running condition, but walks well.



## Miltonia Hybrids – Jim Brydie

These must be one of the most frequently grown ‘garden’ orchids in Sydney. They are short, compact growing, have relatively large, colourful flowers, and are quite hardy hanging in baskets under trees in a backyard in Sydney.

Unfortunately, as often happen with hardy backyard grown orchids, the ‘hardy’ doesn’t always translate to spectacular growing and covered in flowers, especially if they are neglected, and never get fertilised or repotted. If left to look after themselves for twenty years under a small tree, they might not die but they will certainly look scraggy, moth-eaten, and rather unattractive. Make sure you repot all your orchids regularly (every 2 to 3 years) and at the very least use a little slow release fertiliser at whatever frequency is appropriate to the life rate of the fertiliser you use.

Jenny’s Milt Goodale Moir ‘Golden Wonder’



But getting back to the subject, let’s talk about what these Miltonias are. There are about 9 to 12 species of *Miltonia* but there are also quite a few naturally occurring hybrids that were originally described as species until it was later proved they were natural hybrids. Just about all are from Brazil but one species can also be found in Argentina, Paraguay, and Peru, and one other species can also be found in Venezuela. They are mostly from coastal zones at only moderate elevations but as southern Brazil is a temperate zone, they seem to tolerate at least most of Sydney’s level of winter temperatures.

Of the ‘about’ 9 *Miltonia* species, only 3 form the basis of nearly all the hybrids – i.e. *Milt moreliana*, *Milt clowesii*, and *Milt flavescens*. Then there are two others that have a lesser but still substantial influence – *regnellii*, and *candida*.



Without doubt, the most spectacular *Miltonia* species is *Milt. Moreliana*. Until quite recently it was regarded as a select, dark coloured variety of *Miltonia spectabilis*, but it is now recognised as a species in its own right. Its lovely plum colour and

bigger, fuller flowers, have always made it a favourite with growers, but when I first started in our hobby all those years ago (now don’t be nasty, it was less than 50), ‘variety *moreliana*’ had a serious defect in all the plants I ever saw. It had a very long stretch of rhizome, between each pseudobulb (perhaps 8-10 cm) and when you potted it up, it marched in a straight line across the pot and over the far edge in no time at all. It was very hard to grow a pot full with multiple flowers that might look somewhat spectacular.

These days, breeders seem to have overcome that defect, presumably by intensive selective line breeding. Modern cultivars are far superior. In this month’s Virtual Benching, Dora’s plant of *moreliana* “Big Ben” is a perfect example but there are other very good cultivars about as well. Dora’s plant was really well grown but I haven’t used that picture here because I wanted to show you a bigger plant that lets you clearly see the lush compact growth. This shot is Jan Robinson’s Big Ben when it received an AM award in 2012. My old wild collected cultivar would have been lucky to fit 10 pseudobulbs in the same size pot. How is that for comparison. Jan’s Big Ben is what a well grown specimen plant of *Miltonia* should look like.



*Moreliana* is the only deep plum coloured *Miltonia*, so you can easily see where all the plum purple *Miltonia* hybrids get their colour from. However, it must be remembered that there is confusion between records listing *Milt spectabilis* as a parent and those listing *Milt moreliana* as a parent. Until only quite recently, *Milt moreliana* would have been registered as *Miltonia spectabilis* variety *moreliana*, or just *spectabilis*. I don’t know for sure, but from a quick look at the hybrid database, it seems that if the *spectabilis* parent was particularly identified as variety *moreliana*, or variety *atro-rubens*, or similar, those breeding records have now been changed to show *Milt. moreliana*, but I suspect many other records that listed the parent as just ‘*spectabilis*’, were also *moreliana*. Which means many present records hide a *moreliana* heritage.

A good example is *Milt Bluntii* (also listed as *Milt x bluntii*, a naturally occurring hybrid). It is listed as *spectabilis* x *clowesii*, but if you look at pictures of *Bluntii*, like the one at the right, it seems clear to me that *moreliana* has to be the parent and not *spectabilis*.

**M. Bluntii**



The species we know as *spectabilis* today comprises all the paler forms. It is still a very attractive flower (see pictures of 3 different varieties below). But as a result of the duality of the records, I tend to regard all breeding records of *spectabilis* parentage as being more likely *moreliana*.

It is hard to determine when the first *Miltonia* hybrid was made because until the latter part of the 20<sup>th</sup> century (1970?) the current genus *Miltoniopsis* was still *Miltonia* and most early ‘*Miltonia*’ registered hybrids used parents that today

*M. spectabilis* - var. *rosea* 'Floralia' - var. *legolas*



*M. Anne Warne*



we know as *Miltoniopsis*. In addition, many of the very early registrations were listed as 'unknown' x 'unknown'. The first genuine *Miltonia* hybrid I can be sure of is *Milt. Anne Warne* (registered in 1949 by Milton Warne). Its parents were *Milt. x bluntii* x *Milt. spectabilis*, which makes *Anne Warne* 75% *spectabilis* (or *moreliana*) x 25% *clowesii*.

Surprisingly, Jenny's lovely *Milt. Goodale Moir* was

the second, although I suspect her cultivar was more likely a later remake using select parents. The original cross was made by Woodlawn nursery in Hawaii in 1954. The parents are *Milt. clowesii*, and *Milt. flavescens*, the two species often used to impart yellow colours and patterning in the petals. Woodlawn also registered *Milt. Gaiety* in 1955.

It is interesting that their first *Miltonia* hybrid was named for W. W. Goodale Moir, a famous sugar cane Agronomist and orchid lover from Hawaii, because from 1958 until about 1971 Goodale Moir himself dominates the orchid registrations for *Miltonia* hybrids and he is the one who really developed the group as popular orchids. I wonder if Mr Moir was working with Woodlawn to develop those first couple of *Miltonia* hybrids?

In 1958, Moir registered his first two official *Miltonia* hybrids. *Milt. Rio* (*spectabilis* x *flavescens*) x *regnellii*, and *William Kirch* (*clowesii* x *spectabilis*) x *regnellii*. It seems he was experimenting with *regnellii* that year.

Next came *May Moir* (*spectabilis*, or more likely *moreliana*) x *Goodale Moir*, and then *Purple Queen* (*spectabilis*/*moreliana*) x *russelliana*. In both cases the resultant hybrid is more or less plum purple toned so I am assuming the *spectabilis* parent was really *moreliana*. Over the next 30 years Moir registered over 30 *Miltonia* hybrids. He experimented with the benefits and values of a number of species and back crossed some results to produce colourful and growable *Miltonias* that are still grown scattered in orchid collections all around the world. A few of his hybrids are shown below but please understand that these are selected examples of these crosses. Seedlings across each hybrid cross will contain many colour variations and patterns.



**May Moir**



**Purple Queen**



**Minas Gerais**



**Honolulu**



**Matto Grosso**



**Brasilia**

**Culture** – Do you recall that I mentioned earlier that *Miltonias* are often left neglected for way too long, dangling in hanging baskets under a friendly tree in the backyard, and that they can start to look a bit bedraggled and with few flowers. Well that is what mine look like at present so I can't offer growing advice based on my current experience. The following is from an AOS article by Gary Baker from Bill and Lorraine Dobson's website so I am sure it is good.

“Brazilian *Miltonias* can be grown right along with your *Cattleya* hybrids and *Oncidiums*. They tolerate the same light intensity, although they can be grown with much less light. Normally, Brazilian *Miltonia* have quite yellowish leaves. It is typical for someone first encountering these to be concerned about the yellowish leaves but it is normal.

If they are grown under light intensities significantly lower than those for *Cattleyas* or *Oncidiums*, the leaves will become much darker green.

Indeed, treat these *Miltonias* like *Oncidiums* or *Cattleyas* and you should find them thriving for you. Problems are few. Mealy bugs like them and aphids are sometimes seen on flower buds. From my experience, 70% isopropyl alcohol is as safe and effective an insecticide as you will find. Just spray it on undiluted, straight from the rubbing alcohol bottle. Perhaps the worst problem is the die back seen on older leaf tips. I suspect this is a result of fertilising too often or too heavily, resulting in a salt deposit in the leaf tips. This deposit kills the cells in the apex of the leaves, leading to infections by bacteria and fungi. Keep the dead leaf tips cut off, and your problems should be minimal.

However, two words of caution are necessary. First, these need a lot of water when they are actively growing. They are much more like the Colombian *Miltoniopsis* than *Cattleyas* in this respect. Their roots are quite fine and thrive in fine compost, similar to what you would use for *Oncidiums*. Fertilize as you would for *Cattleyas* or *Oncidiums*.

Mount them on cork or else put them into baskets! Give them lots of room to grow over the next half dozen years and you will be rewarded with copious amounts of colourful flowers with a minimum of effort on your part.”

*JB again – seeing that Gary wasn't specific regarding the potting mix, perhaps I could suggest 8 to 12mm bark with perhaps 10% added perlite and 10-15% added crumbled styrene foam. I also suggest that you repot every few years to keep the pot fresh. Like most orchids, repotting should be matched to the growth cycle. Wait until you see new growths starting and then repot before they become too advanced and before new roots start to form.*

# Fertilising Orchids - Wayne's tips after 40 years growing

Written by Wayne Turville from Australian Orchid Nursery - <https://www.australianorchids.com.au/> and republished with his permission.

I don't know of any other subject on the culture of growing orchids that is more hotly disputed and full of misinformation. So many different stories, techniques and opinions. Maybe this article will stir up some ideas and discussions! I think I've got it right after 40 years experimenting !!

**This article may be a bit drawn out, but it is to show how a lifetime of orchid growing changes your mindset and how I'm still learning after all this time.**



Through the 1970 and 80s all the go was Aquasol and Thrive...weakly & weekly.

Alternatively we used Fish emulsion and Nitrosol with an occasional Seasol (Liquid Blood and Bone) for an organic natural hit, once again weakly & weekly. And a sprinkling of Dolomite lime once a year.

On writing this I get a warm feel good about how much I enjoyed rotating these ferts and fondly remember the ocean smell of the Seasol and the earthy musk of the Nitrosol and the beachy Fish emulsion. Even a bit of the old Charlie Carp was tried (ground up pest fish). All balanced up to create quite a smorgasbord of delights for my orchids. I even used to add trace elements once a month in the form of a powder dissolved in the watering cans.



Every Saturday morning I would mix up a different fertilizer and apply it with a watering can. About 30 minutes work, but back then I only had 300 orchids not 300,000. My thoughts were that if the blends were not exactly right then another fertiliser the following week would fill the nutritional gap.

This worked fine for the first 10 years until the collection became a little large and all those watering cans weren't so much fun anymore.

By this stage in the 1990s I had 12 small glasshouses joined together in our big backyard

In the late 80s most were using a 'Fertigator' to feed their orchids. These were brass and hose fittings that had a (siphon) hose in a bucket of strong fertilizer. I think it was called venturi pressure feeding.



At one stage in the mid-80s I borrowed an EC meter (which measures electroconductivity – how much salts are dissolved) and found that the Fertigator method was all over the place. Sometimes dangerously high and other times no fertiliser at all. It seems it depended on the pressure going through the hose!

So what next? Small and mid-sized nurseries were using a gizmo called a "Gewa". So I started trying to buy a second hand one of those.



These work by water being channelled into a reservoir inside the steel canister, but on the outside of a very heavy duty bag. The bag was slowly squeezed by water pressure and concentrated fertiliser solution was funnelled out a valve and mixed with fresh water flowing through to the hose. By turning a valve on the top you could adjust the strength, although an EC meter was needed to verify the correct strength. We all called this device R2-D2 for obvious reasons.

At over \$1600 new, it was never a cheap option, but it worked perfectly for the next ten years for me.

Even in the early days of AON from 2001 we used the GEWA every week of the year. Eventually a thoughtless staff person (possibly me!) left the lid open and tried to fertilize. The bag prolapsed up through the lid and ruptured, and the item was too old to be replaced.

So what do we do these days? Keep it simple! Tip the fertilizer into giant rain water tanks, mix to correct strength using an EC meter and just pump it on via the overhead sprinklers. Ta da! And that's how we still do it today after 18 years at AON Nursery.

**And when you get it right this happens!**



So as I mentioned, I used to use the Smorgasbord technique to fertilize, based on the idea that if I used every product, the orchids would have to be getting all they needed. Unfortunately it's a fairly unprofessional way to feed your orchids and this came to bite me many years later.

At this time I worked for a large (huge actually) cut flower nursery and all I thought I knew was laughed at on a commercial scale.

At this particular nursery they have a full time staff person who arranged all the 15 acres of roses and carnations to be both drip fed and foliar fed.

Leaf matter was sent to Holland for

analysis and a formula was sent back to the nursery every 4 weeks with a feeding program to follow.

Massive sacks of Calcium nitrate, potassium phosphate, numerous trace elements (all different coloured powders) were blended and dissolved in massive 1000 litre vats, and using an electronic dositron, the solution was blended into the water pipes headed out to the igloos.

Below is a crop of Miltoniopsis I grew for Collectors Corner Melbourne. This crop was a hard one to grow as the crop

needed plenty of calcium to grow well and keep the extra large tissue like blooms healthy and fungus free.

We asked for a rep to come and talk about the available options for tank based feeding via the watering lines. The world standard for orchids was a product called Peters Soluble from the USA and Holland. It came in High N for growth periods and Hi K for blooming months. It had more calcium than any other soluble fertiliser and that appealed to me. I've always been a big fan of calcium, and its effect on disease control via strong cell walls. So we started using Peters 30/5/20 + 7 Ca, by the sack, using an EC meter to get the strength right.



As Peters is low in phosphorus to allow the calcium to be soluble and not bound to it (Rock phosphate), you have to, on a commercial scale, re add that somehow.

Easy, we use 8/9 month professional Osmocote Exact (not in shops). This works all year around and adds that extra phosphorus we need for great blooming.

We feed from August to May each year at a **Peters** EC reading of between 0.8 and 1.1mc. We apply **Osmocote** once per year each October. A two finger pinch for 50 and 80mm pots, a three finger pinch for 100mm pots, a 4 finger pinch for 125mm and 140 mm pots, 1 teaspoon for 180mm and 200mm, and 2 teaspoons for 300mm pots.

With the Peters, you should use 1 heaped teaspoon per 9 litre watering can. Peters is low salt so you almost can't overdo the frequency of feeding cycles in the warm months.

The products we use are also for sale to our customers :

<https://www.australianorchids.com.au/collections/types?q=Fertilizer>

**Comment from Jim:** as you can see, this is a nursery that has certainly got the fertilising right, but there is more to it than that. Professional commercial nurserymen like Wayne understand the plants they are growing and provide the right light, growing medium, and environment they need as well. When the big orchid fairs recommence, compare the health of the orchids they are selling to those in your own growing area, and consider what you need to improve.

Also, a comment on the Fertigator. I still use these and I agree that water pressure is a key issue. We are lucky here in Sydney that pressure is very good in nearly all areas but don't use over long hoses. Every extra metre of hose reduces the pressure that the venturi suction system depends on. And, if your hose is old and stiff, throw it in the bin and buy a new one. The invisible insides of hoses can become cracked and damaged and also reduce pressure.

## Parting Humour

