



# The Cymbidium Newsletter

Reg No A0023705W COSV Website: [www.cosv.com.au](http://www.cosv.com.au)

## February 2010

### 2010 Meeting Dates

January –  
February 9  
March 9  
April 13  
May 11  
June 8  
July 13  
August 10  
September 14  
October 12  
November 9  
December 14

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**Meetings:** The 2<sup>nd</sup> Tuesday of each month (except January), Mt Waverley Community Centre, Youth Centre Hall, Miller Crescent, Mount Waverley (Melway 61/D12 and 70/D1). The hall is off Stephenson Road and is next to the Library.

**Meetings start at 8.00pm. Basket Supper please.**

### **\*Main Item for the Evening: Nicolas Duckitt**

Nicolas is from Duckitts Nursery, in Cape Town South Africa, and will give a presentation on their nursery practices. Which includes their progress in breeding both commercial and show quality orchids - for Disas, Ansellia's, Polystachia's, Stenoglottis and of course Cymbidiums (potplant and cutflower lines).

### **\*Cultural Talk – Peter Sunderland**

Peter will be giving us a talk on Fungicides, which should be very interesting as this is a general problem at this time of the year.

### **\*Growing Competition – Colin Gillespie**

Our new competition starts this month, so please bring your plants along, Colin Gillespie will be doing this section this year, there are still a number of plants available and will be on sale at the meeting they are \$15 for two plants, which is one seedling and one mericlone, the plants available are:

Valley Olympic 'Pink Perfection' (this plant won the 2004 National Show in Sydney)

Joan's Era 'No. 1' x Kingwin 'South Park' (this seedling should give us interesting plants hybridized by Kimberley Orchids)

### **\*Plant Commentary – Ern Kettle**

### **\*Seedling Commentary – Peter Sunderland and/or Terry Poulton**

### **\*Species Commentary – Stephen Early and Ern Kettle**

**\*Last Month's Meeting**

Thanks to Murray Harding for his very interesting talk and slide show on canaliculatum orchids, I am sure that this was enjoyed by all. Their weren't any plants benched at this meeting. Which I think was a first!! If you have any Cymbidiums in flower please bring them along for everyone to have a look at.

**\*Cymbidium National in Western Australia 2010**

If anyone is considering going to Perth for this years show, South Australia has put together a package, anyone that is interested can please to Jenny our Secretary.

**\*Raffle**

We will be holding our usual raffle for the night, if anyone would like to donate anything you are more than welcome, this month will include the Easter Basket which is kindly donated by Joyce and Peter Sunderland.

**\*Neutrog Order**

It is time to place our Neutrog orders again, the order form is enclosed kindly complete and return with your payment to Jenny Robinson by no later than the **30<sup>th</sup> March 2010.** **PLEASE NOTE THAT NO LATE ORDERS WILL BE ACCEPTED.**

**\*Cultural Notes.**

Enclosed please find an article that was written by Alvin Bryant in 1985 which many of you should find interesting reading.

**\*Emailing of Newsletter**

This year we would like to concentrate on trying to email the newsletter to as many members as possible to cut down on the costs of printing and postage, kindly complete the tear off slip at the bottom of the newsletter and hand to either Jenny Robinson or Karen Gillespie at the next meeting, this will also be an opportunity to update any other details you might have changed in the last while, you can also email your details to Jenny Robinson, Jenny's email address is at the top of the newsletter. By receiving your newsletter via email we will be able to send photographs of the previous month's winning plants etc. which would be too costly to print and post each month.

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**NAME:** .....

**ADDRESS:** .....

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**TELEPHONE:**.....

**EMAIL :** .....

# FERTILISERS AND MAGIC WATER

## *The right result for the wrong reason?*

ALVIN BRYANT

If you have been fired with enthusiasm over the articles on fertilisers you have been reading lately that is good. If you tried them and have been pleased with the results that is even better. It will be better again if fertilisers are fitted into the overall needs for cultural excellence as we shall see.

Over the years most of us will have seen a number of instances where a grower has made the resolve to "feed" his orchids properly and substantial improvements have resulted. Always however there has continued the search for the better fertiliser or the better compost and so we see the never-ending cycle of change and enquiry.

In all this endeavour however, there is a contradiction. Doesn't it seem odd that some growers have been consistently obtaining superb results over time without having used that latest fertiliser? Is that grower using something he is not talking about or is it something else? Why is it that reputable growers can report growth advantages each time a new fertiliser is tried? Is it that the newer fertilisers are better or is it something else?

If you observe what happens when a grower tries out a new fertiliser or resolves to regularly "feed" his orchids a common factor emerges. In each case where the improved result occurred you will find the grower had to give methodical attention to his watering in order to apply the fertiliser. Further, if you check any of the growers who have an outstanding record you will find without exception they have given meticulous attention to their watering. If water is the common factor to outstanding culture and a particular brand of fertiliser is not, then it is the water we should be looking at and not so much the fertiliser. If this is true then the right result has been gained for the wrong reasons.

If you want top results in culture then it is classical and simple. Further, it can be easily understood so you do not have to blindly follow what someone else is doing. You might think of it as the "magic water" formula to put the emphasis in the right place for if you know

what water does then you know the classical pathway to plant perfection.

When a grower talks of "feeding" his orchids and is referring to fertilising them he has taken the first wrong step for the bulk plant food is carbohydrate. This is made from carbon dioxide and water — not the fertiliser.

It is not uncommon to see this type of thinking elsewhere in our culture. How many people try out numerous different composts when all that is needed is some sand and a little understanding? In fact it is possible to gain optimum results using any one of a whole range of fertilisers or composts.

The "magic water" formula has two parts. The first is concerned with maximising carbohydrate formation and the second with maximum use of that carbohydrate. Here is the formula — with reasons.

For carbohydrate formation (1) sunlight (2) air and (3) "magic water".

The sun is the energy source and its actions on the chlorophyll in the leaf enables two chemical actions to take place (1) the water taken up is broken into hydrogen and oxygen and (2) the carbon dioxide taken in is combined with this hydrogen to form carbohydrate. (In this process think of some of the sun's energy being locked into the carbohydrate for future release).

Plants should have sunlight on them as long as possible during the day to optimise the energy available for carbohydrate formation. The maximum leaf area should also be exposed so care should be taken not to have them too close together. A common method for pot spacing is to have a pot space between each pot. Add to this the special property of most orchids in that they do not like full sunlight. Further, light travels in straight lines and it is not enough to think a plant is in a well-lit situation. Check it out by observing if the sun's rays would actually reach the plant with only the presence of a filter between the sun and the plant. (A figure of 30 per cent to 50 per cent is often given for the Sydney region).

This gives the cultural rules whereby a plant should have filtered sunlight on the

maximum of leaf area for as long as possible during the day.

The next cultural rule is the one about which this article hinges for there can be no carbohydrate manufacture without the water and carbon dioxide. Assuming air movement is adequate then the carbon dioxide supply will be adequate. It is the adequacy of the water supply however where I believe most growers fall down. A continuous supply is necessary or the plant has to stop its carbohydrate manufacture. Orchids do not show this as other plants do and it is a good idea to have a few coleus plants in with the orchids as indicators. If you try this then you will be surprised at how often you see them wilting.

The second cultural rule is now self-evident for it can only be to ensure that adequate air movement and water is present.

If I could put the next step in small print I would do so for fertiliser is needed in only minute quantities in relation to the air and water. This should be balanced with the fact that even the most minute cultural requirement if ignored becomes limiting to the plant. Fertiliser can be released from the organic material in the compost or from chemical application. If the plants are to be grown under controlled conditions then it has to be chemical application with leaf analysis to make sure the rate of uptake can be monitored and varied to ensure it meets the pre-determined optimums. It is here the hobbyist grower is disadvantaged for he will have to rely on observation and trust that the fertiliser will do what is claimed of it. As a rule of thumb (and I restrict this to cymbidiums) there seems to be a consensus among growers that fertilisers for growing should have about twice the nitrogen level of fertilisers for flowering and fertilisers for flowering should have a nitrogen level of about two per cent of the dry weight of the leaf. If N, P, K figures are meaningful then a fertiliser with a 13, 5, 18 listing should be looked at carefully for flowering cymbidiums and recommended application strengths should never be exceeded.

Of course I must insert another barb at this point by mentioning the fact that only the fertiliser which is dissolved in water is taken up by the plant so once again water is the limiting factor.

It can be seen that water, the magic component of the bulk plant food could not work its magic unless sunlight and carbon dioxide

were also considered. Now there will still be no magic unless the plant can use the carbohydrates.

Both plants and animals have a respiration process in which the carbohydrates are broken down. In this the earlier process is virtually reversed for oxygen is taken in, combined with the hydrogen to form water, and carbon dioxide is given off. The energy trapped from the sun is released and this enables living organisms to function. For a plant however, the rate of respiration increases with the rise of temperature. This is why growth can be accelerated by raising temperatures and retarded by lowering them. Experiments on record show quite clearly how the application of cold water can retard growth. As the respiration rate for plants and animals is a continuous process through both day and night, it is obvious that a plant must produce enough carbohydrate in the day time to last it through the night. If temperatures are raised too high in the night time this reserve can be exhausted. A good example of this is seen when cymbidium growers bring their flowers in early with heat but to excess the flowers are small, soft and have no shelf life.

This gives the next cultural rule whereby plant growth can be accelerated by raising temperatures to better utilise carbohydrate reserves.

Now when my attention focussed on the magic water I was faced with a problem. How could a continuous supply of water be guaranteed to a plant without interfering with respiration? It seemed a very fine balance between maintaining air spaces for respiration and continual and adequate water particle size. The gravel culture techniques seemed to be most promising for there was no reason why a plant could not be grown in sand in a pot using the same principles. I disciplined myself for several seasons and grew several benches of plants with each bench having a different compost. The sand compost and the straight peat moss composts came out equally on top so I changed to a sand compost. To my surprise however, another bench not in the test did better than the test benches. These plants were growing in sand and the galvanised top had sagged so that the pots were continuously in about one and a half inches of water. I pulled the plants out of the pots and the roots were all perfect. Their continuous immersion had not affected them. Here was a cultural bridge which I should

have put together long ago. In true hydroponics roots live under water because dissolved oxygen is carefully maintained and their respiration process can continue. What had inhibited my thinking and no doubt that of others was the textbook situation where growing techniques must be put forward for soils. Here because of organic content, dissolved oxygen is lost and roots die if there is too much unchanged water. With pot culture however both the amount of organic material and the frequency of water change can be controlled. As a result the cultural rules for different conditions can be formulated. (1) With organic composts the traditional techniques hold up, namely keep the plant moist but not wet. Providing the pot drains readily adequate oxygen should be available. (2) If the pot is too wet then there is competition for the available oxygen between the roots and the decomposing organic matter and the roots may die (3) if however the watering is frequent enough the roots may not die because the existing water is replaced with fresh oxygenated water. With inorganic potting material however, it is much simpler, the pot may be kept wet for there is no competition for the dissolved oxygen in the water and the water (with fertiliser) may be changed readily.

The cultural rule then is to keep at an optimum both the respiration rate and the water uptake.

If you think about it the understanding of the dissolved oxygen role is the bridge of understanding between the soil and the soil-less or inert-compost cultures. If you also can see water not just as a word but as "magic water" and take the time to understand it then you have the formula for cultural excellence.

18 Kangaroo Point Road, Sylvania.

"Inasmuch as it comprises more than 90 per cent of the weight of the orchid plant, water is a good starting point for a discussion of orchid-plant nutrition. Water is the medium whereby the mineral nutrients are absorbed by the plants, as well as the medium for metabolic reactions within plants. But water is more than just a medium of transport of nutrients, for, in the processes of nutrition, water is metabolised into the composition of the plants as a source of hydrogen and oxygen. Although it is not the direct source of oxygen for respiration, it does, nevertheless serve as the medium of transport for this important nutrient." Dr O.W. Davidson.

### A MATTER OF MUCH TRUTH

"Truth", said one Greek philosopher (was it Diogenes?) "lies at the bottom of a well". Now down Mornington way they know this is not true. It lies down in the orchid house.

A frustrated anonymous contributor wrote the following for the *MPOS Orchid News*. The anonymity has no doubt caused some growers to eye their partner with suspicion.

Anyway orchid wives invariably have the satisfaction of knowing where their husbands can be found.

**Class:** Non-orchid Grower x Fanatical Orchid Grower (Slipper).

Looking at it from a non-orchid grower's point of view, it seems justifiable to assume that a different lingo, lifestyle and love occurs between plant and owner.

That is, is it sound in saying that a NOG (non-orchid grower) is ignorant when trying to participate in a typical conversation that revolves around Chamberlianianianianums, bed socks — or is that supposed to be slippers, supercools, cats (and dogs?), pouches (are we referring to kangaroos, or what), chit chats, etc, etc? The language is never-ending.

The average NOG's (non-orchid grower's) lifestyle is also influenced by these plants. It's astonishing to calculate the amount of time they receive.

I must remember:

- Don't organise any social functions for
    - 2nd Monday of every month
    - 4th Friday of every month
    - 3rd Tuesday of every month
- } Meetings!
- Every Saturday morning of every week — plants have to be inspected after each meeting to ensure no damage was done.
  - Extra time for preparing speeches when called upon.
  - Extra time for photographing winning specimens.
  - Extra time for **thanking** orchids for all the ribbons, first prizes, glasses and **cultural certificates** acquired.

Any spare time a FOG (fanatical orchid grower) may have is devoted to watering, fertilising, nourishing, cleansing, toning and moisturising, and any other beauty treatment on hand.

It seems odd to think that it is possible for competition to exist between human and plant — but it does!

Anonymous