

# CYMBIDIUM NEWS

Published by the Cymbidium Orchid Club of South Australia Inc.

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**The two plants here are arguably the most famous  
Cymbidiums of all time.**

**Read about them in the article starting on Page 6**

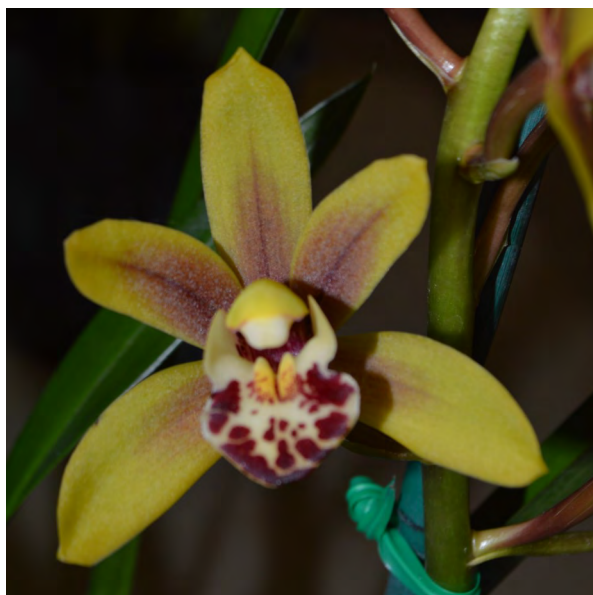




**Above and right**  
**Best Overall and best in Open Division**  
**Also Best Intermediate Green**  
**Valentine's Love 'Leanne'**  
**Grown by Michael Willoughby & Oui Ju**



**Below and Right**  
**Best Miniature Seedling and**  
**Best Miniature Other Colour**  
**Sundaani Autumn ( Golden Queen x**  
**Gold n Red)**  
**Grown by Pauline & Mark Hockey**



# Cymbidium News, Volume 19 No. 3 APRIL 2017

The New Cymbidium News is published monthly, February to November inclusive and is the Official Newsletter of the **Cymbidium Orchid Club of South Australia Inc**

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## Life Members

Ray Brady,	Moss Bray,	John Longbottom,	Yvonne Longbottom,
Graham Morris,	Dean Roesler #,	Jeanne Hall #,	Wayne Baylis,
Ben Knobben	Brian & Shirley Brand,		# indicates Deceased

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We are now on Facebook. Lots of up to date information and photos. Over 1000 views on many postings. Follow this link <https://www.facebook.com/pages/Cymbidium-Orchid-Club-of-South-Australia/149369758460045?hc>

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## Presidents Message April 2017

Welcome to our April Magazine. What a great meeting we had in March. I have never seen so many smiling faces during the quiz. Many thanks to Barry for preparing the questions and congratulations to the winning team, even though they only just won with the toss of two coins in a heads and tails decider.

A very informative insight into Michael and Oui's set up was presented, and how they grow their orchids. Most of us would wish for the extra room they have, but with that, as we all know, comes the extra work. Thank you, Michael and Oui for showing us your great set up.

This month we will be getting an insight into Adrian Brockman's set up, which we should all look forward to, to see how he grows his orchids. Also, we will be having our first guest speaker for the year, Norm Martin from Busselton, Western Australia. It will be interesting to see and hear how Norm grows his orchids.

We are having a Neutrog "Super Sale" at the next meeting, with some of the over stocked products going out below cost. A list is in this issue.

Pauline Hockey will also have a trading table, so overall, we should have another great meeting

The new badges have been ordered, and will be given out at this month's meeting. They look much better than the old ones, and will not have the same problem we have had with the old ones. If yours is damaged in any way, or you have never received one, please give your name to Christine, and we will get you a new one with no charge. If you lose one, or want an updated one, they will be \$5 each, with the club part subsidising them.

April is a busy month with spikes growing, early flowers starting to come out, staking your pots, potting on and numerous others thing we all do. I hope you all have plenty of spikes coming though, but as Shane found out, be on the lookout for rats and mice, also slugs and snails when the flowers finally come out.

Just a quick reminder. We still have quite a few members who have not payed their subs this year, so we would all be grateful if you could do this quickly, either using the EFT details in this magazine, or see Christine at the meeting.

We are still looking for more help with the supper. It is not hard to boil a kettle, and serve a few teas and coffees. All the food is done by Pauline McLean, for which we thank Pauline. The assistance we are seeking is easy and simple. Thanks to the Jacobs for April, the Spears for May and October, and the Stearnes for August. Barry Bailey will organize the November Christmas meeting where we will all help a little, so all we want is somebody for **June and September**. If nobody comes forward, there will be no supper on these two months. We will need help with many other things during the year, as well as supper, so please come forward and give us a hand to make your club better.

I look forward to seeing you all on the 26<sup>th</sup>

Kind Regards      Graham Fear      President

**Please note. Year 2017 Membership Subscriptions (\$40) are due now.**

**If you have not already done so, please pay Christine, our Treasurer, at the next meeting, or contact her as soon as possible if you have any issues in paying.**

**It is a great help if all payments are received promptly.**

**You can now pay subscriptions and anything else by the Club Electronic Funds Transfer (EFT), and make Treasurer Christine's job a little easier.**

**Bank SA, BSB 105-108 Account Number 022900640**

**Please show your name with any deposit so Christine can identify who has paid**

**Please also call Christine on 08 8536 3948 so she can look for your payment..**

\*\*\*\*\*

**Never to be repeated  
Neutrog Fertilizer Specials  
ONCE ONLY CLEARANCE SALE  
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**(Available at the April meeting ONLY  
or collect from Strathalbyn)**

<b>Sudden Impact for Roses</b>	<b>20kg</b>	<b>\$25</b>
<b>Sudden Impact for Lawns</b>	<b>20kg</b>	<b>\$25</b>
<b>Kahoona (for Acid lovers)</b>	<b>20kg</b>	<b>\$25</b>
<b>Strike Back for Orchids</b>	<b>20kg</b>	<b>\$25</b>
<b>Gyganic (for Fruit &amp; Citrus)</b>	<b>20kg</b>	<b>\$25</b>

**As there is limited stocks of some please  
contact John Howard and pre order your requirements  
Phone 0419 814 981 or Email [hijon@adam.com.au](mailto:hijon@adam.com.au)**

**John will be handling the supply of all future Neutrog sales at  
the Club**

**He will bring your orders to club meetings if possible, or you can  
collect from 4/6 Laurel Court, Strathalbyn  
(phone before visiting)**

**Note – Neutrog are great supporters of our club. Buying through  
our club helps show support of our major sponsor. The mate's  
rate prices are difficult to beat.**

We are fortunate to grow high quality cymbidiums now. Just 50 years or so ago the quality was much poorer. In those times many plants were diploid (2N) or triploid (3N). The discovery that the chemical Colchacine, could be used to convert diploid plants into tetraploids (4N) changed cymbidium growing dramatically, and provided a bank of very superior breeding plants, for use in hybridising programs. Tetraploids generally were bigger, more shapely, more colourful and tougher than most diploids. They improved our cymbidiums spectacularly, and quickly. In the article below, well known COCSA member, Kevin Western, explains how it all happened, and now how the chemical Oryzalin, has superseded Colchacine. **Thank you Kevin.** I have not seen it explained as well anywhere, previously. It has been a huge step forward in cymbidium development.

## **PLOIDY AS IT AFFECTS ORCHIDS © Kevin Western**

My topic aims to briefly cover the use of Colchicine and / or Oryzalin in tissue culture laboratories, to actively make ploidy changes in orchids. This process applies to all manner of plants of agricultural or horticultural importance to man.

Ploidy change means a change in the number of chromosomes in living cells.

Collections of genes strung together are called Chromosomes.

Significantly, all plant, animal and microscopic life on this planet is based on genes and chromosomes, and the instructions for life carried in the code provided by those genes.

All cell reproduction and creation of new offspring is based on multiplication of those genes, and the way in which those genes, in their chromosomes, multiply or divide.

What we are, what our plants are and what all life forms on this earth are, is based on the instructions and interactions that are coded in the genes we inherited from ancestors.

Some examples are wheat, which was a natural chance polyploid arising some thousands of years ago from a grass, that previously just had small seeds, and which was gathered by humans. Some gatherers noted there were occasional larger seed bearing plants, and collected them, and actively cultivated them on, and so humankind had wheat to crop, to harvest and to breed on with. Without it or similar larger grains, we might still be a bunch of smelly hunter-gatherers, so ploidy change was profoundly significant in human history. Without such grains we would not have been able to grow enough food to diversify and master individual industries, or to settle and build settlements and cities.

Back in the early to mid 1970's, South Australian scientists artificially hybridized wheat and barley to produce Triticale, a grain of significant commercial importance today. The hybrids had some miss-matched chromosomes and thus could not make sex cells – eggs or pollen - so the hybrids were treated with colchicine to double their chromosome count per cell, and so triticale was able to make sex cells, and thus could be bred with and developed.

Some plants do exist naturally as tetraploids, or even polyploids, and they are usually not adversely affected by the change, excepting that their pollinators may no longer be able to pollinate them..

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In animals, ploidy change is usually lethal with embryo death before birth, or development, but there are several instances of living species found today that are obviously derived from tetraploids.

Geneticists have discovered that our own evolution has come through occasional accidental tetraploid events millions of years ago, and that with time, mutation and selection of the fittest, those additional chromosomes ultimately went on to become comprised of new genes that coded for new, unique, life promoting factors in their own right. Thus, the originally just duplicated chromosomes became unique, with unique genes of their own.

## TO THE ORCHID WORLD

Most naturally occurring species *Cymbidium* orchids have 2 pairs of each chromosome in a cell with one of each pair inherited from the pod parent and the other from its pollen parent.

The first *Cymbidium* hybrids had just 2 pairs of chromosomes in each cell. The first recorded cymbidium hybrid was *Eburneo-lowianum* in 1889. This hybrid was subsequently crossed with *insigne* to produce *Cym Alexanderi* which was registered in 1911. One seedling plant was visually and horticulturally superior to the rest – *Alexanderi* ‘Westonbirt’. The reason it was superior was that it was a chance tetraploid, where each cell now had four sets of chromosomes instead of what should have been just 2 sets. Errors in cell reproduction do occur naturally, and continuously at very low levels. This is the process whereby mutation occurs. An error had occurred in the process of cell division that lead to ‘Westonbirt’, which resulted in a tetraploid embryo which grew on and survived to become famous. The cells of ‘Westonbirt’ [ and all tetraploids ] were larger and the flowers were bigger, more shapely and better textured. Its appeal is testified to in that there are 13,000 registered hybrids today with



*Alexanderi* as an ancestor

. Chance tetraploids do continue to arise in seedlings and clones produced in tissue culture laboratories **but we have tools to actively convert diploids into tetraploids.**

Back in the late 1960's it was realized that the drug, colchicine, used in humans to treat gout, could be used during the tissue culture process to produce artificial tetraploids.

Colchicine is a poison produced by members of the *Crocus* family to deter herbi-

vores from grazing on them. Though used as a drug to treat gout, it is hazardous to humans. It may also kill a portion of orchid tissues exposed to it.

Solutions of colchicine in Water for Injection can be autoclaved and sterilised at 115 deg C. It can be stable in sterile solution for up to six months if stored in darkness. A saturated solution of colchicine in water contains 5% colchicine which may precipitate on storage. Thus, in many orchid tissue culture laboratories, it was not always effective, as operators had not thought about the issue of loss of potency over time; e.g. bacteria growing in non-sterile solutions could destroy potency, plus simple chemical decay over time would also decrease potency. . Many operators also advocated to include the colchicine in the medium before autoclaving, and depending on the concentration and type of compounds/salts in that medium, and the temperature and duration of exposure to high temperatures, so the colchicine would be variably and considerably degraded and thus tend not to be effective.

In spite of all that, so much work was done worldwide, that many a batch of clones or seedlings were successfully converted from  $2n$  to  $4n$ . Conversely, for a range of reasons, as described above, there were massive failures too.

I became involved in orchid tissue culture in 1970 after graduating as a Pharmacist while doing my compulsory year of post graduate training at The Queen Elizabeth Hospital. I sowed seed and did some cloning, mostly for my own pleasure, and actually did some work for Ross Gowling who pioneered breeding of early flowering cymbidiums in South Australia.

In about 1981, I teamed up with Gordon Brooks who soon suggested that given my pharmaceutical compounding experience, and ability to purchase chemicals, we should embark on deliberate conversion of diploids to tetraploids. We had heard that Professor Donald Wimber had used colchicine to produce  $4N$  or tetraploid versions of the then famous Peter Pan 'Greensleeves' (pictured below left) so one of the first we processed was Peter Pan 'Green Sleeves' [ 700+ progeny now ] and then Lunagrad 'Elanora' [ 1000+ progeny now] as we realized others had already done so and that they were going to be useful to produce very saleable seedlings.



We were very successful in converting tissue because I bought fresh, dry powder drug-quality colchicine, stored it properly and made precise, stable, filter-sterilised solutions for convenient use. Gordon built a shaker and I formulated and made fluid media, and we were under way.

We were intent on getting  $4N$  Australian native cymbidiums and their hybrids to cross with the quality tetraploids of the time, and so we treated seedlings of *Cym madidum* and of the hybrid, *Cym Kuranda*. We were very disappointed as the madidums seemed no different from the  $2n$ 's and none of the Kurandas seemed to be converted either - that is until an **unconverted  $2n$**  seedling of the treated batch flowered, whereupon we realized all the previously flowered Kurandas had been converted. The madidums seemed not to have converted.

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More recently, a chemical called Oryzalin was discovered that is more stable, safer to use, and more effective than colchicine in changing ploidy, and it does not seem to be as lethal to some orchid cultures as colchicine was.

# **PAULINE'S LABORATORY SERVICE**

FOR ALL ASPECT OF CYMBIDIUM  
TISSUE CULTURE

CONTACT PAULINE OR KEV McLEAN

PHONE...(08) 8386 0430

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MOANA  
S.A. 5169

EMAIL.....kevin.mclean3@bigpond.com

## **TRADING TABLE SUPPLIES**

250mm Pot	\$1.30
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180mm Pot	.60c
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Stakes Bundle 25	\$3.50
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Calcium Nitrate	\$2.50
4 Head Dropper	\$9.00
Single Head Dropper	\$4.50
Trisodium Phosphate	\$5.00 per 500g, \$10 per Kg

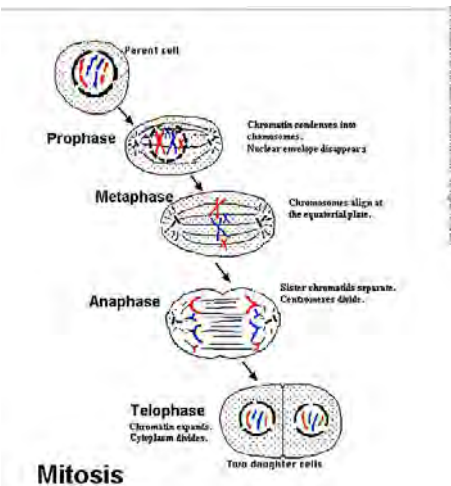
Larger bags available but pre ordering is required.

Please phone Wayne Baylis to order

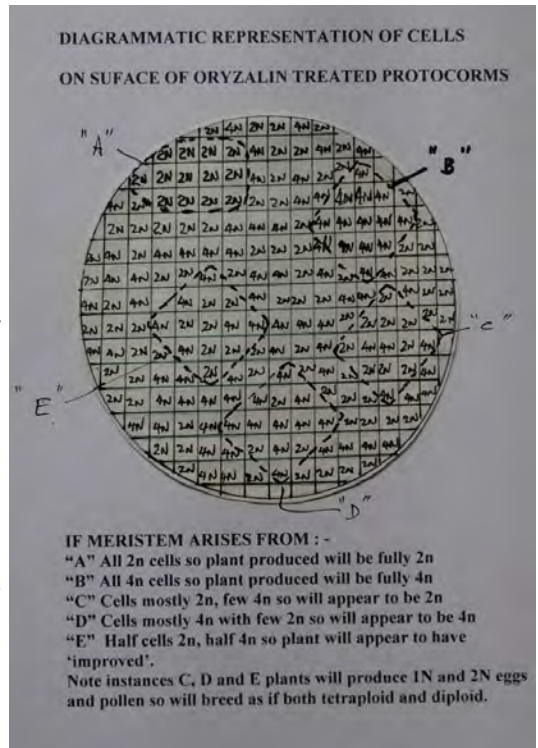
Home 08 8235 0340, Mobile 0417 887 431

(Best time to call is early evening on home number)

What happens is that chromosomes in some the surface cells of the protocorms will undergo Mitosis and pair up and reproduce themselves as per normal, to make new cells, but the oryzalin (or Colchicine) then prohibits separation of the chromosomes and formation of the new cell wall, that would have occurred at Telophase, and so the cell just ends up with an extra copy of its chromosomes and we get 4N cells.



After exposure, the protocorms are rinsed free from Oryzalin with sterile water and then put on to mother flasks of typical growing agar to recover and grow on, until they are large enough to be transferred to final replat flasks where they will eventually grow to deflask size.



I say 'more or less' converted, as a proportion of the cells on the exterior of the protocorm will have their chromosome count double while some will remain unconverted 2N.

When the protocorm makes a growing point or meristem, it depends on the proportion of 2n and 4n cells that make it up, whether the plantlet it becomes is still fully 2N, fully 4n or a mix or more or less 2N & 4N cells. Thus Oryzalin converted plantlets are likely to be 'Mixoploids' and if they are mostly or totally 4N cells, then they will appear to be tetraploids. True, 100% tetraploids are made when the laboratory mixoploids are grown up, flowered and bred with each other or with other full tetraploids.

If we cross 2 mixoploids then we will get 2N, 3N and 4N seedlings and it will take deliberate selection to get the ones we want.

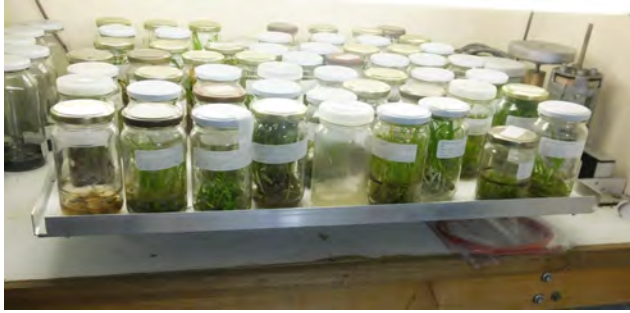
This is because 2N plants make 1N sex cells so a seedling is made from an egg cell with 1 set of each chromosome fused with a pollen cell, with 1 set of each chromosome, and the seedling is again 2N.

A 4N plant makes 2N sex cells so seedlings are made from an egg cell with 2 sets of each chromosome fused with a pollen cell that has 2 sets of each chromosome, and the seedling is again 4N.

Thus 4N crossed with 2N = 3N à mostly likely to be sterile but look like 4N.

Being 4N makes for tricky inheritance of all things such as flower size, shape, colour etc as there are no longer just 2 genes controlling a feature. By now we have 4 genes which may all be different in coding for the same feature, so I think outcomes in tetraploids are more variable than with the diploids.

That is of no consequence as we tend to select the best for our needs and sell or destroy the rest, and so, as we see every year at our monthly meeting, orchid shows and orchid magazines, the genus ever continues to improve.



At left  
Culture shaker



Above  
Advancing Protocorms



Above  
Final Replate

# **PAULINE'S LABORATORY SERVICE**

FOR ALL ASPECT OF CYMBIDIUM  
TISSUE CULTURE

CONTACT PAULINE OR KEV McLEAN

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EMAIL....kevin.mclean3@bigpond.com

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250mm Pot	\$1.30
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140mm Pot	.50c
Stakes Bundle 25	\$3.50
Twist Ties Bundle 100	\$2.00
Labels Bundle 25	\$2.00
Calcium Nitrate	\$2.50
4 Head Dropper	\$9.00
Single Head Dropper	\$4.50

Trisodium Phosphate      \$5.00 per 500g, \$10 per Kg

Larger bags available but pre ordering is required.

Please phone Wayne Baylis to order

Home 08 8235 0340, Mobile 0417 887 431

(Best time to call is early evening on home number)

**.The next Meeting of the  
Cymbidium Orchid Club of South Australia Inc.  
will be held on**

**Wednesday 26th April 2017  
at the**

**Burnside Community Centre, 401 Greenhill Road, Tasmore, SA**

**Meetings are held on the 4<sup>th</sup> Wednesday of each month,  
February to November**

**Program - March 2017 Meeting**

**7.00 pm Auditorium opens**

**7.15 pm Beginners Class (All welcome). Includes special  
Announcement for the beginners**

**8.00 pm February Meeting commences.**

**8.10pm Adrian Brockman will tell you and show you how he has  
put together an impressive collection of high quality and  
unusual cymbidiums. Adrian is a relative newcomer at our  
club, so how he has gone about putting together his  
collection should interest us all**

**8.30pm Norm Martin, from Busselton, Western Australia  
He will speak about “Growing and hybridising from my perspective”**

**9.15pm Judges discuss flowers displayed.**

**9.30pm Meeting closes  
Please remain for light supper and friendly discussions**

**May meeting is Wednesday 24th May.**

**Our guest speaker will be Phil Grech from Melbourne  
He will bring some very special plants for sale, including some  
advanced sized plants of Drouin Masterpiece ‘Kaleidoscope’**

**NOTICE**  
**IN FUTURE ONLY PREORDERED ITEMS**  
**WILL BE BROUGHT TO MEETINGS**

For enquires regarding Pots, Stakes, Foggers, Labels,  
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Please contact Wayne Baylis  
Home 8235 0340 Mobile 0417 887 431

**PLANTS WANTED**

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**Cuddles 'Orange '      Peter Aiger-Muehler    0422483567**  
**Flaming Pepper 'Black Magic' Alex Priadko    0418897465**

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|---|-----------|--------------|
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| • <i>Strike Back for Orchids Liquid</i>         | 1Lt       | \$10         |
| • <i>Rocket Fuel</i>                            | 15Kg bag  | \$15         |
| • <i>Sudden Impact for Roses</i>                | 20 Kg bag | \$30         |
| • <i>Seamungus Liquid</i>                       | 1lt.      | \$10         |
| • <i>Seamungus</i>                              | 20 Kg bag | \$22         |
| • <i>Sudden Impact for Lawns</i>                | 20 Kg bag | \$32         |
| • <i>GoGo Juice</i>                             | 2.lt      | \$15         |
| • <i>Rapid Raiser</i>                           | 20 Kg bag | \$15         |
| • <i>TriSodium Phosphate (Virus Sterilizer)</i> |           | \$10. per Kg |

**PLEASE NOTE NEW PRICES**

Please place your orders with Ron Hannaford on (08) 8284 8253 or email  
ronhannaford@bigpond.com and payment to

Treasurer Christine Robertson—(cheques to be made out to COCSA)

**NB: Product to be picked up from Ron Hannaford or can be arranged to be  
collected at the Monthly Club Meeting.**

Bags of TriSodium Phosphate are now available from the trading table (for sterilizing cutting tools etc). One Kilogram bag \$10, 500 grams \$5.00. Larger bags are available on request.

Note, these prices are much cheaper than you can get privately.

## Single Flower Competition ( May to October only)

At each meeting this year, we will be promoting a single flower competition. We love you to bring your whole plant in flower to exhibit, but there are many reasons why this may not be possible. If this is the case, take this opportunity to show off your single flowers. Please ensure the plant name is on a card, and if possible add a short description of the plant. For example indicate how many flowers per spike, plant size and how many flower spikes, or any other points of interest. Flowers exhibited should be collected after the meeting by the exhibitor. If not possible, please arrange an alternative arrangement with the judges when presenting your flowers for judging. Flowers not collected will be destroyed.

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## Interstate Cymbidium Clubs

### Cymbidium Club of Australia (NSW)

**Secretary** Mrs Judith Brooks Ph 02 9773 9197 email [jahamilton.17@btinternet.com](mailto:jahamilton.17@btinternet.com) **Web-site** [ccansw.com.au](http://ccansw.com.au) **Facebook** [cymbidiumclubofaustralia](https://www.facebook.com/cymbidiumclubofaustralia) **Meetings** are on the second Tuesday, March to November

### Cymbidium Orchid Society of Victoria

**Secretary** Julie Forrest Ph 0417 339026  
**email** [efo28308@bigpond.net.au](mailto:efo28308@bigpond.net.au).  
**Website** [cosv.com.au](http://cosv.com.au) **Meetings** Second Tuesday February to December

### Cymbidium Orchid Club of Western Australia

**Secretary** Helen Stretch Ph 08 9362 4120 email [hstretch2007@bigpond.com](mailto:hstretch2007@bigpond.com)  
**Website** [cymbidiumorchidclubwa.com.au](http://cymbidiumorchidclubwa.com.au) **Meetings** third Monday Feb. to Nov.

For details of other South Australian Orchid Clubs, refer to our Web Site [cymorchidssa.com.au](http://cymorchidssa.com.au)

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**Our “Cymbidium Orchid Club of South Australia” Facebook** site is receiving well over 1000 views per posting, from growers all around the world. Plants shown at our meetings are posted, and we try to add some interesting articles, which often cannot be published in this magazine. Try to look in on us and support the site (please).

**Stop Press** We recently received well over 5000 views in 24 hours for the posting of Spotted Madam ‘Brydie’ We regularly get over 1000 views in the first 24 hours, sometimes 2000+ views, but never before well over 5000

\*\*\*\*\*

**Refer also to our Cymbidium Orchid Club of South Australia Website**  
[cymorchidssa.com.au](http://cymorchidssa.com.au)

# Endorsement membership product information

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The Experts' Choice

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### Gyganic

Perfect for fruit and citrus. Gyganic has been specifically developed to enhance fruit size, quality and taste.  
**20kg bag**



### Kahoona

Ideal for all acid loving plants such as Camellias, Gardenias, Azaleas and Rhododendrons.  
**20kg bag**



### Sudden Impact for Roses

Ideal for all flowering and fruiting plants – not just roses.  
**20kg bag**



### Strike Back for Orchids

Ideal for the all potted flowering and fruiting plants – not just orchids.  
**20kg bag**



### Strike Back for Orchids Liquid

Ideal for all potted flowering and fruiting plants – not just orchids.  
**1L bottle**



### Sudden Impact for Lawns

Ideal for new and established lawns, along with other non-flowering plants such as palms, ferns and conifers, as well as leafy vegetables and herbs.  
**20kg bag**



### Upsurge

Ideal for turf to improve soil structure and increase earthworm activity, root growth and resistance to pests and disease.  
**7.5kg**

## ORGANIC FERTILISERS



### Bounce Back

A high quality, general purpose fertiliser, specifically formulated for the most effective and safe feeding of all your garden plants. Ideal for winter and summer application.  
100% organic and ACO registered.  
**20kg bag**



### Rapid Raiser

A high quality, boosted general purpose fertiliser. The increased phosphorus level makes it ideal for planting and promotes faster, healthier and sustained growth for all plants. Particularly suitable for heavy feeding plants such as roses and citrus.  
100% organic and ACO registered.  
**20kg bag**



### Blade Runner

A high quality, general purpose lawn fertiliser. Ideal for all use on all lawns, particularly new lawns and summer application of established lawns where the slow release properties help to prevent thatch build up.  
100% organic and ACO registered.  
**15kg bag**



### Rocket Fuel

Specifically developed for growing healthy, organic fruit and vegetables. A portion of all retail sales go to supporting the Stephanie Alexander Kitchen Garden Foundation.  
100% organic and ACO registered.  
**15kg bag**



### Cock'n'Bull

A mix of cow and chicken manure, Cock'n'Bull is ideal for conditioning the soil whilst adding nutrients. A perfect additive to any garden or veggie bed.  
100% organic and ACO registered.  
**30L bag**



### Meatworks Blood'n'Bone

An all-purpose organic fertiliser manufactured from meat and bone meal.  
**25kg bag**

## ORGANIC FERTILISERS



### Seamungus Pellets

Ideally suited for establishing new plants (particularly bare-rooted roses) and for use on natives. Seamungus can also be used as a plant tonic to revitalise all your plants throughout the year. 100% organic and ACO registered.  
**20kg bag**



### Seamungus Liquid

Ideally suited for establishing new plants (particularly bare-rooted roses) and for use on natives. Seamungus can also be used as a plant tonic to revitalise all your plants throughout the year.  
**1L bottle**



### Seamungus Green

The smaller crumble form makes Seamungus Green ideal for lawns and in dry conditions where more immediate breakdown is required. It can also be used as a plant tonic to revitalise all your plants throughout the year.  
100% organic and ACO registered.  
**20kg bag**



### GOGO Juice

A pro-biotic for your soil and plants, GOGO Juice provides all the benefits of applying liquid kelp, seaweed and humic acid, whilst adding beneficial bacteria to assist in breaking down the organic matter, maximising the nutrients available to your plants.



**1L Concentrate**  
**2L Concentrate**  
**2L Ready to Use**



- Prices include GST
- Free delivery to agreed delivery points for minimum 1 tonne / pallet orders
- These prices are strictly for members only and are not to be knowingly disclosed to the general public

## BOOKS



From the Ground Up SA currently out of stock



VIC



NSW

### From the Ground Up

From the Ground Up is a complete and comprehensive, state-based garden guide for gardeners. The books utilise the recommendations of many plant experts, coupled with the fantastic knowledge and experience from our authors – Sophie Thomson (SA edition), Jane Edmondson (VIC edition) and Linda, Sandra and Graham Ross (NSW edition).



**Year round fertilising for year round health**

Like humans and animals, plants require regular feeding throughout the year – at least once in each season.

Happy, healthy, well nourished plants are more resistant to pests, diseases, heat stress and frost.

The programs have been specifically developed by experts who rely upon optimum plant growth to earn their living.

To find the Neutrog feeding program that is right for you, log onto our website [www.neutrog.com.au](http://www.neutrog.com.au)

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South Australia 5252  
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F (08) 8538 3522  
E [info@neutrog.com.au](mailto:info@neutrog.com.au)  
W [www.neutrog.com.au](http://www.neutrog.com.au)



## **Garden City Plastics May 2017 SPECIAL**

10-12 Hakkinen Road, Wingfield, SA 5013

Phone: (08) 8168 4100, Fax: (08) 8168 4199

Email: sa@gardencityplastics.com

### **30% Off Orchidata Bark**

**Available 1st May till 31st May 2017**



\*\*\*\*\*

**Fellow cymbidium growers, I have some mericlones up for sale.**

They are in 50 mm squares tubes, foliage @ 30 cm, strong root system down to bottom of tubes.

**Plants below are \$8 each or 3 for \$20**

Glory Daze x Sleeping Dawn

Atlantic Crossing x Eight Carats

Doo Wop 'Ringwood'

Forest Place 'Queens Jewel'

**Plants below are \$15 each or 2 for \$25.**

Strathdon Cooksbridge 'Fantasy'

Pepper Fire 'Carnival'

Rocky Creek 'Gotcha'

Rothesay 'Butterfly' (limited)

**Plants below are \$25 each.**

Purely Dreaming 'Pheonix' (limited)

Coraki Glowing (one left)

Call Chee Ng 0411 776507

For orders for pick up, or plants can be brought to club meeting.

**Neutrog are great supporters of our Club.**

**Please support them wherever possible and tell others  
about them**

**The Cymbidium Orchid Club of South Australia, was actively involved in developing and testing Strike Back for Orchids and endorses it's use.**

# Strike Back<sup>®</sup> for Orchids

Now available in a  
*liquid concentrate*



**Ideal for all potted  
flowering and  
fruiting plants ...  
not just orchids!**

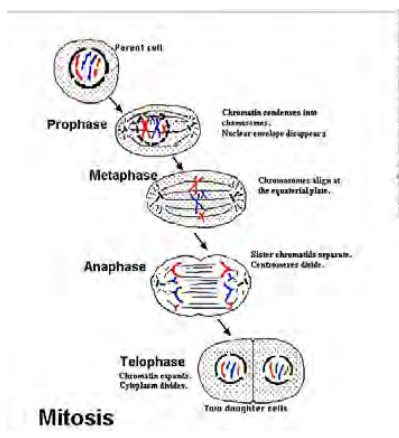
**NEUTROG<sup>™</sup>**

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## Colour Photos from Ploidy Article

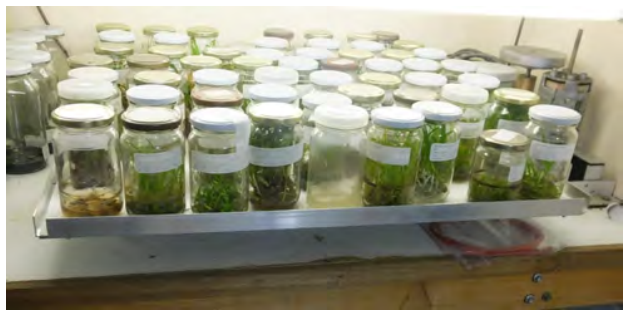
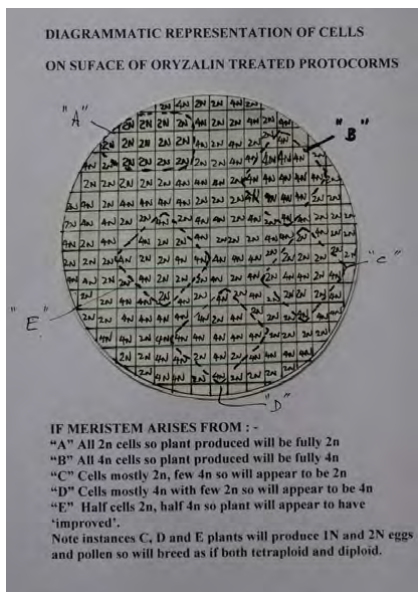
Top Left  
Alexanderi 'Westonbirt'

Top Right  
Peter Pan 'Greensleeves' 4N

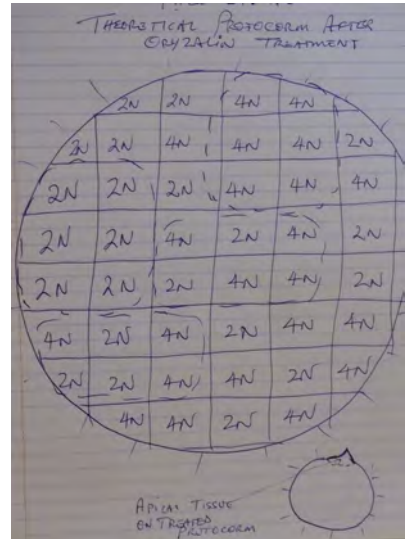
Centre Left  
Diploid and Tetraploid forms of the same flower

Centre Right  
Mitosis

Bottom Left  
parishii



## Colour Photos From Ploidy Article



- Top Left Hypothetical protocorm surface
- Top Right Culture shaker
- Centre right Hypothetical treated protocorm
- Bottom Left Advancing protocorms
- Bottom Right Final replate flask

