

Bundaberg Orchid Society Inc.

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Newsletter

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We are currently holding our New and Interested Growers Group Meetings, however we are waiting for COVID 19 Restrictions to relax before we commence with our Monthly Meetings. The Secretary will advise if the situation changes.

Orchid News for Meetings

Current COVID 19 Restrictions are still permissible enough for our Orchid Society to hold outdoor Meetings and the next NIGG Meeting will be held on 6 March 2022 at Bob and Deborah Shield's place. Their address will be sent by separate email. There will be a raffle and members can bring plants for sale.

There will be a BBQ Sausage Sizzle at the conclusion of this meeting. Please advise Carolyn Smith (our new BBQ Member – WELL DONE) of your attendance for catering purposes.

Feel free to bring an Orchid plant/s along to talk about, seek advice or merely have the opportunity to share your success. Everyone loves an Orchid.

Our next **Monthly Meeting** is 17 March 2022, COVID 19 Restrictions Permitting. We will be looking at reinstating our supper at the end of this meeting. We are also going to sell plants at this meeting as we have done in the past with little success, however we have been told that a number of new members are keen to buy some orchids, so we will give it another bash.

The Club merchandise is available only to BOSI members not the public.

Please phone Bev on **0427 667 706** or Email ahaidke@bigpond.com to arrange a suitable time for you to collect any merchandise you require for your Orchid Potting. If you want to collect Items from Bev at the monthly meetings please let her know a few days prior of what you need. **Please do not ask for more than what you have ordered when collecting your items as this places our wonderful merchandising lady in an awkward position. Also if you call use her mobile number above, not the home phone.**

While the Bundaberg Orchid Society Inc. endeavours to ensure reliability and accuracy in this Newsletter's editorial content, responsibility for advice and views expressed is not assumed by the Society or the Management Committee.

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NEW AND INTERESTED GROWERS GROUP MEETING **6 FEBRUARY 2022**

Our recent NIGG Meeting at Mel and Carolyn Smiths Place was well attended with about 50 members in attendance and the BBQ Sausage Sizzle went down a treat. We have to commend Mel and Carolyn as their place did not have a blade of grass out of place or orchid pot that was not right dressed, with not a weed in a pot seen anywhere. Great effort guys and well done.

Rick gave a great talk on a special little Orchid that he brought along. Also, Bev Heidke gave us all a very informative talk on how to repot dendrobiums, a mystery to more than a few of us.

Members did take the opportunity to purchase some of the orchids brought along for sale to members. We also had new members in attendance being Wolf and Susan Natho as well as Rod McKenzie and Eunice Chung.

NEW AND INTERESTED GROWERS GROUP MEETING

6 FEBRUARY 2022



It was decided at the last Committee Meeting to purchase a mini speaker system to use at our new and interested growers group meetings as it would seem that we are all getting a little deafer as time goes by. We had one, but no one can recall where it now resides, so it is time to buy a new one with the latest tech.

We will also be looking for members to get up and have a talk at our new and interested growers group meetings about a special orchid that they have, with where and when they acquired it, how they divide and repot it and what potting material they use. How many times they have divided it, what bugs and diseases it has had, what light and water conditions it likes etc etc.

We are also looking to get members to give a little talk about themselves. All our members will have interesting lives with where they started and what they did during there working life, how they got hooked on orchids and what they do now etc.

If there are any members that want to put there hand up for these talks, please let me know and we can schedule you in at our NIGG Meetings. Also, if you want to dob in someone who may be a little shy and need some encouragement, also let me know. I am a good encourager.

An Introduction to pH Problems

(Treat the cause, not the effect)

By Barry Walker

Firstly, what is pH?

From Princeton Dictionary; pH (from potential of hydrogen) is the logarithm of the reciprocal of hydrogen-ion concentration in gram atoms per litre; provides a measure on a scale from 0 to 14 of the acidity or alkalinity of a solution. (where 7 is neutral and greater than 7 is more basic and less than 7 is more acidic.

The pH factor is one of the most important influences on sound plant culture. It is possible to look at the factor in a simple way to gain useful information about the basic fundamentals so that growers may understand and control the pH of their orchid collection. It is a better strategy to eliminate the cause of pH problems rather than treat the effect of sour potting mix.

Having the knowledge to correctly identify pH problems are often misdiagnosed as over watering. Plants have an optimum pH range in which they grow best and orchids are no exception. In fact, orchids may suffer severe root damage which in some cases which may lead to the death of the orchid. The most sinister aspect of pH problems is that the problem sneaks up on growers over time. The problem may only be apparent when the plant is re-potted. In some cases, the occasional black tips indicate trouble; the lack of vigour in plant growth and the formation of many back bulbs are sure signs of a problem. Damaged roots turn black on the tips and develop an amber appearance before they finally die.

The sad part about pH problems is that a grower might well be dedicated to the proper culture of the plants and, since the issue of pH is out of sight, it is often out of mind. This was my experience when I first encountered the problem. I received a huge wake-up call when presented with a disturbing number of damaged and sick plants and faced with the prospect of either giving up orchid growing or fixing the problem. I chose the latter.

Looking back with hindsight at my original attempt to grow orchids I often think how stupid and naïve I was in thinking all that I needed to do was buy an orchid, plant it in orchid bark, fertilise it with fertiliser, water when needed, place in a good environment and enjoy the flowers. It's easy really, I soon learnt that unforeseen pH problem severely affected my plants and that I had to address the problem. One saving grace is that if pH is recognised by a grower as a potential problem, it can be easily monitored, measured, managed and eliminated as a culture problem. Often a plant is so severely damaged the grower would be better off to bin it, then correct the problem. Buy a new plant and start again. Recovering damaged plants is all too often a futile exercise because recovered plants seem to lose their vigour. When the potting medium becomes very acid, say pH4, it is about the level that damage seems to occur and can be corrected as far as pH is concerned. I have not enjoyed much success in recovering this kink of potting medium. The bark at such a low pH4, seem to adopt some form of toxic property and in this event a better strategy would be to re-pot the plant in new bark.

Starved Plants

Fertilisers are designed to supply orchids with correct nutrient in a particular pH range pH 6 - 6.5. The pH has a radical effect on nutrient uptake. If pH accidentally drifts from these values, nutritional problems will develop, presenting themselves as toxic or deficient levels of nutrition. Nutrition problems can be masked when the pH is in the wrong range and the plant shows perhaps all the symptoms of iron deficiency even though iron is supplied at adequate levels. The only way to correct this problem is to fix the pH. Plants can starve when the pH is wrong, even though they are supplied with the correct amount of fertiliser.

Strategy to Manage pH

It must be understood that aged pine bark in nugget form has a pH of 4.5 needing liming agents to correct it to pH 6 – 6.5. I use from 3 to 5 grams a litre of 50% dolomite lime and 50% agricultural lime to correct it, making sure these liming products contain both small and large particles. Most suppliers provide an analysis of different mesh sizes to which the particles have been screened. Apply the mixture to a slightly wet bark and mix thoroughly, the object to make the liming material stick to the bark surface. Finely ground particles will give an immediate change in pH and the larger particles will be held in reserve and give longer term control over pH. Let the mix stand for three weeks before using it so that the pH stabilises.

Soaking bark in water with liming agents will give only limited, superficial control. The larger liming particles will be washed from the bark to accumulate at the bottom of the container. They are lost. The smaller particles are diluted and lost as the water drains from the container. An alternative to nuggets is composted pine bark, an excellent product with a pH of around 6-6.5 and ideal for orchids, it needs no treatment.

Orchids are long lived and it is not uncommon for plants to grow in the same medium for three or four years (or even longer) Adding lime to bark when orchids are potted should be considered as short-term control. Lime is used and leached from the medium over time, and remedial control could start when the lime material is exhausted. In my situation I have no need to add additional liming material because I control pH by a different means – to be mentioned later. Another handy strategy is to use additives with your potting mix material with neutral or alkaline properties to neutralise the natural pH of bark and increase the pH. Such material includes perlite, charcoal, stone, rice hulls, coco peat and polystyrene. Make sure the potting mix drains well and allows good air exchange in the pot. Poorly designed mixes encourage anaerobic decay in the pot which sours the mix.

Acquire a pH test kit as supplied by Manutec, test the potting mix when potting your orchids and regularly test a representative sample of your orchids, say three monthly. These kits come with instructions and give an accurate enough result for orchid growing. The pH meters leave much to be desired. They need constant calibration, are delicate and expensive. These instruments are handy if you are doing laboratory type testing. Fertiliser plays a major role in pH control Most elements in fertilisers are made from basic salts, each of them producing their own pH reaction when taken up by plants. These salts are blended in the correct proportion to achieve the correct balance between nutrients. Nitrogen is the exception; it comes in three forms and many manufacturers blend nitrogen salts any way they wish. I guess economics may have something to do with it. The three forms of nitrogen are nitrate, ammonium and urea. When plants take up nitrate an alkaline reaction takes place in the pot. If they take up ammonium an acid reaction takes place, likewise urea is converted by microbial action to ammonium causing an acidic reaction also. It follows that the ratio of nitrate to effective ammonium will play an important role in determining the combined pH reaction in the pot.

A generally accepted theory states that a fertiliser should have four times as much nitrate as ammonium, a ratio which in ideal conditions will produce a balanced pH reaction. Another issue that needs to be considered in a process known as nitrification, which simply means the conversion by microbes of ammonium to nitrates in the pot. These microbes prefer warm conditions. In cool conditions the plant can be over supplied with ammonium, causing an adverse acid reaction. It is wise to reduce or stop using ammonium in winter. If nitrogen is required in winter, use a nitrate form. Personally, I avoid urea based fertilisers. I find them hard to control. It must be noted that small plants cause small pH changes and larger fast-growing plants will change the pH to a much greater level.

Measuring the pH of applied fertiliser is misleading because pH will only change as the plant takes up the fertiliser. Keep in mind that it must be applied at the correct pH. Examine the fertiliser label and determine whether it will produce an acidic or alkaline response. Acidic fertilisers may be supplemented by extra nitrates. The addition of a separate calcium nitrate feed at half to one gram a litre will go a long way towards correcting the problem.

From a nutritional point of view providing extra calcium will also help to balance your fertiliser. Calcium nitrate is not blended into concentrated commercial fertiliser because it is incompatible with sulphates and phosphates, and will precipitate out. Calcium nitrate may be mixed into diluted fertiliser at the strength we would normally use. I mix all my basic salts including calcium nitrate, in diluted form in hot water. The resultant fertiliser produces a stable pot pH at 6 -6.5 all year round. Problems might develop during winter when pH may drop and you do not want to apply fertiliser. Other strategies are available to the grower, such as top dressing with dolomite lime. Lime slurries may also be used but be care full and seek expert help before using these products. It is easy to overshoot your desired pH. Water quality can present a problem. When I use town water supply, I do not correct pH, I simply add a little more ammonium salt to my fertiliser to neutralise the alkalinity.

This paper started out looking at pH and moved to plant nutrition. The two are closely linked and it is impossible to separate them. Plant nutrition is dealt with very simply with the object of explaining basic principles and the effect on pH. Fertiliser and their use is a complex subject and needs more security. My work is directed at anyone who has run out of ideas and is at wits end finding out what's wrong with their orchid culture. It might steer readers into investigating pH as a possible problem. If your culture produces satisfactory results, don't change. It is unwise to fix something that's not broken.



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