

Growing Phalaenopsis as a houseplant – Jim Brydie

A newer grower recently asked me what they should do with a supermarket Phalaenopsis they had been given. Well in fact, these can be fantastic houseplants after you understand a few key issues and deal with them.

There have already been a number of very nice articles published on growing Phallies in the home. All I have read are quite valid and sound but reflect the particular writers practices and beliefs, and as I too have a set of biases and practices, I thought it was time that I added my personal version of advice as well.

So, what are these “**Key Issues**” I mentioned earlier? Well *the 1st is that Phalaenopsis orchids are, tropical, warm growing orchids*. You **CAN NOT** GROW THEM IN THE SHADEHOUSE OR HANGING OUTSIDE all year – unless you happen to live in the tropics. In temperate climates like Sydney, you must grow them in a heated glasshouse OR inside the home. The temperature in your home might not be as warm as a heated glasshouse, but you do heat your home for yourself in winter and Phallies will tolerate the inside house temperature quite well. The things that help are that house temperature only declines gradually at night and the plants avoid the potential temperature shock they would be subject to from sharper changes outside. In addition, inside conditions are dry. There will be no overnight condensation on the leaves and this can be a serious source of rot through air born infections.

The 2nd key issue is that **supermarkets here have taken to marketing these flowering beauties packed in small, decorative, glazed ceramic, or plastic non draining pots**. The plant is often jammed into one of these shiny pots in just a little sphagnum moss to keep it moist. The problem for an orchid grower is that these pots have no drainage hole. The pot does a great job of protecting the furniture underneath it, but the plant is being treated like a bunch of cut flowers or perhaps a hydroponic specimen. With sufficient expertise you might keep them going for a while like this but you are really much better advised to take them out of that pot altogether and repot immediately. Decorative non-draining pots can be very useful when temporarily displaying flowering orchids, but please don't grow the plants sitting in them.



The 3rd key issue is in the way Phalaenopsis flowering is triggered by temperature variation. In nature, this invariably occurs with the natural, gradual change of seasons, so flowering is usually once a year at around the same time. You probably don't want to know exact details but if you are interested, there is a wonderful 4 part article series that was published in the American Orchid Society magazine and can be seen on the internet. Part 3 is the one, at : http://www.aos.org/AOS/media/Content-Images/PDFs/GrowingtheBestPhalsPart_3.pdf (*see reference below)

The essence is that it is cooler days and nights that trigger flowering. Tests show that the ‘low’ trigger temp is only about 25°C over several days. This may sound high but then their preferred temperatures range is 25°C to 35°C. They will tolerate much wider conditions however, provided they aren't subjected to sharp changes or extremes. I have heard stories about Phallies grown in a constantly climate controlled home that refused to re-flower but it must have been a very warm home. Flowering can be easily triggered by a short spell in a less controlled room.

When commercial nurseries produce ‘crops’ of phalaenopsis for sale through large chain outlets, they want huge numbers of the exact same clones all in nearly identical flowering all at the same time. They have the culture and flower timing of these orchids down to a real art form. In huge glasshouses about aircraft hanger size, they grow baby plants up to flowering size and hold them off flowering until exactly when they want them to flower. Perhaps some floral chain in Europe will phone and asks for 5000 pink Phallies for sale to coincide with Mothers day or some other date opportunity. The nursery triggers the spikes at exactly the right time by curtaining off the particular area and dropping the temperature. They ship the flowering plants off right on schedule. The picture here gives an idea of what a batch looks like getting close to shipping time.



Culture : So now you know what is being aimed at and what you are trying to do, how do you grow these orchids? Well you sure can't do it like the commercial nurseries, so lets get practical for home growing.

1. The medium, in general – There is no perfect answer as to what medium you should use. What will work for you depends greatly on your growing environment and whatever watering practices have become entrenched in your style. You might not believe that you have an entrenched watering practice in your growing thinking, but most growers do. No matter what advice a grower receives and thinks they have adopted, what they actually do is tainted by a deeper fundamental belief about what a plant needs. In other words, your understanding of “only water just before the mix really gets dry” – could be quite different to my idea. You will water more than I do or perhaps less. Thus, what medium works for me, may not be the best medium for you. The following is just my story of what I do for Phallies.

I use a bark based mix for most small or non flowering size Phallies for when I grow them in the glasshouse full time. For larger Phallies, when they get up to flowering size, I repot into sphagnum moss and styrene foam and pack it very tight. When they finally show a spike starting, I take the plants into the house to flower them and for us to enjoy the flowers. There are various reasons for flowering them inside the house but a big factor is that if I leave them in the glasshouse while the spike is developing, the spike is sometimes attacked by snails, slugs, or other bugs, which seem

to seek them out and to love them. Pests also get at the flowers and new leaves that way too. Also, my glasshouse is a tad dark and the spikes develop best in the better light of our dining room table.

For Phallies in the glasshouse, the bark medium works better for me because I can't water at different rates for different plants in the glasshouse. I have hundreds of different orchid types in there and everything gets watered at the same rate at the same time. It is a little too much for some, a little too little for others. You just always seek a balance that all can at least tolerate. Plants potted in sphag have to be repotted more frequently because the watering there is a bit too heavy for sphag and it 'goes off' more quickly than in the house. Phallies on the kitchen table are watered with a cheap squirter spray bottle. There, we just water to suit the Phallies and the weather, and the sphag lasts longer.

Are you wondering by now just what "Sphag" is and how to use it? Experienced growers may wish to skip ahead here because this next bit is pretty much a repeat of an article I did in Feb 2016.

Sphagnum and the secret of fluffing it up - Sphagnum (with the ph pronounced as f) is a genus of moss. There are about 200 species of Sphagnum moss found throughout the world. They grow in bogs, which are more or less shallow lakes or depressions which have a layer of the living sphagnum moss and other wet plants growing over the surface. The wet decaying mush of material underneath eventually becomes what is called peat moss over thousands of years.

I have been using Sphagnum moss as a medium for many years but in the early days I was able to buy live 'sphag' which is supplied in a clear plastic bag, is wet but not dripping, and contains a mix of the green live moss and the slightly yellowish brown moss from just underneath. Live sphagnum is nearly impossible to buy anymore. If you can get it at all today it is hugely expensive.



The sphagnum presently available is harvested from certain bogs in various parts of the world. Harvest is usually government controlled so that the bog can still continually regenerate, a process that in some cases can take between 8 to 30 years. Most growers now buy dried compressed sphagnum moss which is sold in various pack sizes. I buy a 'bale' (shown here) which weighs 3kg, is 80 litres of compressed moss, and makes 240 litres of moss when wet,



dampened, and fluffed up. On Garrie Bromley's suggestion, I bought one of those big see through plastic boxes with a clip on lid (at the Reject Shop) that is a perfect fit to store the dried bale. It fits under the benches in the shadehouse and keeps the bale dry, while over a period of time like a year or more, I harvest small quantities from it to use as I need it. I have a smaller see through box I keep in my potting area, to hold a quantity of dampened, fluffed up sphag ready to use, and here is where we get down to the secret. -- **How do you wet compressed dried sphag?**

I had never asked anyone how to do it. It seemed rather obvious to me – put it in a bucket, fill it with water until it is saturated, drain it off, and then squeeze out the moss to remove the excess water. This was my process for years but the resulting moist sphag wasn't anywhere near as good as the live stuff. At first I thought that it was because the sphag I was buying just wasn't as good a quality, but it was the only stuff available so I studiously picked out and discarded the worst bits and put up with it. Very time consuming and less than satisfying.

More recently I wondered if there was something wrong with the way I was using it. About a year previous I had been reading a Japanese website about growing *Sophronis coccinea* in sphag moss and was surprised that the grower said to dampen an amount of dried sphagnum but whatever you do, don't soak it and wring it out. Aha I thought to myself. I knew this was an important clue. But how else do you dampen desiccated sphag than in a bucket? It is as dry as it can be when it comes in the bale AND it doesn't seem to wet very easily – or so I thought. I didn't follow it up.

And then there was a visit to Royale Orchids in 2015. During the visit, Kevin Hipkins was showing a few of us a deflasking method using sphag. His sphag looked so fresh and fluffy and the perfect amount of moisture. I asked how on earth he got the sphag like that and he told me that it was dried sphag and that he prepared it a day in advance. I could hardly believe it. He said he sort of fluffed it up dry, dampening it with just small quantities of water, bit by bit, fluffing and mixing the dampening sphag all the time to allow the moisture to spread. I listened carefully. Could this small change in the way you do it make that much difference? But the proof was in front of me in Kevin's hands.

When I got home I tried it and it worked. When you first start dampening the dry sphag it looks like the small amount of water you are adding is hardly doing anything but sphag seems to have an amazing ability to absorb and spread the moisture among a volume of itself. As you fluff and mix, separating the strands, the moisture spreads, and as you keep adding small amounts of water, the whole volume you are mixing becomes uniformly damp and fluffed up. Magic.

I don't know what squeezing water out of sphag does to it but it seems to damage it in some way. I no longer do it.

Potting Phals in Sphag - When I make up sphag to use as a potting material, I take the fluffed up damp sphag and add about 15 to 20% additional volume of crumbled up soft styrene foam (see previous article on foam types). The combination is my "sphag mix". The foam spreads the sphag, adds air, and doesn't break down as the sphag does.

So how do you use it? For all intents and purposes, sphagnum moss is like a kitchen sponge. There is a lot of air space among the solid bits and it can absorb an awful lot of water. When you squeeze a sponge you close up the air spaces that were holding the water and water runs out. Conversely, a compressed sponge can't absorb nearly as much water.

That is why when I pot with this stuff I pack it into the pot as hard as is practicable. It stays damp between waterings this way, but is never as wet and soggy as a wet kitchen sink sponge. Too wet is no good.

The actual potting and growing process – First, Phallies have very coarse, fat, brittle roots, like most Vandaceous orchids. When you repot, and if you only have a few, it is worth soaking the plant roots in a basin of water for an hour before you start, to make the roots more pliable and maneuverable.

I like to use well drained squat pots to pot the Phals in as it makes a stable platform for the flowering plant and uses less mix. Choose **as small a diameter squat pot as is practicable** to arrange the roots in. It will depend to some extent on how big a root system the plant has. Roots that were previously growing out in the air will not adapt to being buried in the mix so don't push them in. When you pot, let those roots stay in the air, they will find sphag if they want to.



Here is my way – after this I bet I get a bunch of experienced growers come and tell me I've got it all wrong but what the heck, it works for me. I first put a 1 to 2cm pad of the sphag mix in the bottom of the pot. Then I try, as best I can, to arrange the old pot roots into the pot so I can hold the base of the plant about level with the rim of the pot. I hold it there with one hand while I work sphag mix in and around the roots as best I can, adding more and more and pressing it down as firmly as I can without smashing the old roots to death. Luckily, sphag is a pretty soft weapon with which to squash anything, but at the same time, loose sphag holds just too much water, so keep pressing it in firmly.

My freshly potted Phal is now placed on our dining room table among other Phals in spike and flower. I sit them on circular, shallow plastic trays (36cm diameter) which generally hold 3 or 4 plants. Less if they are big plants. I put a one to 2cm layer of damp sphag on the tray, under the pots, to soak up any water over-run and to provide humidity.

The dining room is on the north side of the house. It faces the winter sun but there is a wide open verandah roof adjoining the house on that side as well. The room is very bright but the verandah roof prevents any direct sun coming onto the table. There are vertical blinds for further protection on hot days. The plants stay here until its flowers are finished, when I usually then take them back to the glasshouse, to be replaced by other plants coming up in spike.

Watering – It is something of a cliché to keep saying that you only water orchids when they need it, but really, that is the aim. You aim for the sphag to go from wet (as wet as compressed sphag gets wet), to just barely damp. Whatever you do, **don't let the sphag dry out completely**. It is much harder to wet right through again if gets too dry. You run the thin line again. Don't water any more frequently than you have to, but don't let the sphag go dry.

The last part of this that needs to be said is that watering is much more finely applied with a squirter bottle than running the pot under a kitchen tap. It is tempting and perhaps a tad quicker to use the tap, but please use the squirter. It applies the water more slowly, letting it soak in, and you will much more accurately judge 'watered or not'.

Fertilising - This is as simple as having a second squirter bottle mixed with dilute soluble fertiliser. We use Peter's Finisher and use it at about 1/3 to 1/2 strength. You can apply it roughly every second time you need to water the orchids. One time straight water, one time dilute fertiliser. It doesn't matter if you just use water a few times and no fertiliser. But don't do it the other way around and fertilise all the time. Be patient – don't try to force grow them.

Look to the Light side – I don't mean this in a Star Wars "the Force" way. The issue is that Phalaenopsis flower spikes are highly light sensitive and will grow toward the brightest light. Once you have set them up on the table, take care that if you move the plants or the trays around, to be sure that you put them back as soon as possible in the same light orientation. Failure to do so will result in the spikes doing direction changes from half way up or wherever they were when you moved them. It looks awful.

Staking - Phal spikes always need staking. In my situation, the spikes usually develop growing up and out at about 45 degrees. For appearance purposes, they look much better trained more or less vertical for at least the bottom 60 to 80 percent of the spike. Don't try and pull back a spike after it is already developed too far at 45 degrees. It will likely break. Also, even when you are gradually training the spike and developing it upright, be aware that in the mornings when a spike has been relatively cool overnight, the spikes are particularly brittle. I have certainly snapped a few in my time so I can attest to the truth of that fact. When the spike gets up high enough I usually allow the top 20-30% or so to develop horizontally to the light, so the flowers display beautifully toward the viewer.

Please Note Again: Our mature Phals are nearly all potted in sphag as above but that is because it works for us and the way we grow them. I am not telling you to immediately change all your Phals to sphag mixes. The majority of growers use bark mixes perfectly successfully, and some use peat and perlite even better. There are no doubt other mixes too. Each mix has different characteristics and you need to water and fertilise in a pattern that best suits your mix and conditions. Plants in bark require an occasional application of lime or dolomite to offset increasing acidity. Plants in sphag need to be repotted more frequently. Each has its positives and negatives. Choose what works for you.

References : Growing the Best Phalaenopsis Part 3: Temperature and Light Requirements, Height, Insect and Disease Control by Roberto Lopez, Erik Runkle, PhD, Yin-Tung Wang, PhD, Matthew Blanchard and Tony Hsu.