

## Growing Phalaenopsis

Approximately 45 years ago I decided to move to my present address, 23 Vineys Ln. Dural. Until that time I had been living at Carlingford. However due to the area being declared residential I could not proceed with my idea to develop a modern greenhouse complex there. At that time a whole range of new systems of glasshouse construction and environmental controls were being developed, and I wanted to be part of these new exciting developments.

I selected Dural for this venture. Research had shown that this would be the center of the Nursery Industry for many years to come. The climate was good. The area received the cooling affect of the nor-easter winds in the summer but avoided the cold of the Cumberland plains in the winter. The first glasshouse built was designed to grow Phalaenopsis. Fully equipped with heating and cooling systems the glasshouse temperature could be controlled to within 2 degrees, heating at up to 24 degrees in winter. 2 large evaporative coolers could affect an air change approximately every 4 minutes. Ceiling fans were added to achieve constant air movement. They were wired to run in reverse so that the air was sucked upwards and then spread downwards, thus avoiding any direct draft on the plants.

While 24 degrees may seem a high temperature today, it was useful at different times of the year, principally to control humidity and thus keep botrytis under control. Oil at that time cost only 14 cents per gallon, which equates to just over 3 cents per litre.

I had chosen Phalaenopsis as the main crop I wanted to grow, because at that time there was an unfilled demand for the flowers for use in wedding bouquets. They were being seen in many overseas magazines, however they were not readily available in Sydney. The plants were readily available in flasks from the USA and that was where I obtained my stock.

After some experimentation I found that they grew best in a mixture of black tree-fern chunks, about 30mm in size and lumps of charcoal, both of which were freely available. The plants grew best in plastic saucers which were 250mm in diameter and about 50mm deep. I made 4x30mm holes in the bottom of the saucers using a hot soldering iron. The saucers could not be drilled as they would shatter. The benches were made of corrugated fibro (asbestos) sheets, with the ends of the corrugations sealed to hold water. The benches rested on the heating pipes that sat on besser blocks so they were approx 250mm above the floor. The benches could be flooded by a drip system at dusk, and with the heating system on the evaporation of the water kept the humidity up and growth levels were at an optimum. It was not long before I had very large plants.

The flowers were cut higher up the stem, which quickly branched to produce more flowers. Very soon we were the major source of phalaenopsis flowers in the Sydney Flower Market.

White was the main colour grown as the texture and lasting qualities were superior, and anyway, we could dye white flowers to any colour the florists wanted, including green and blue. Indeed I once, for fun, dyed one spike green on a small plant and took it to an orchid meeting. The next thing I knew the judges had carted it off, and were going to give it an award. I saved some red faces by rescuing the plant. I really thought everyone knew there was no such thing as a grass-green phalaenopsis. I have to admit though those dyes were good.

As so often happens, times were a changing, and I decided that I no longer wanted to continue growing phalaenopsis. At the time there was a huge boom taking place with Indoor Foliage plants, so I started another nursery in Quarry Rd. devoted to this new industry. It was at this time that Keith Wallace became part of the organization and we converted the Vineys Ln.

nursery into a Fern Nursery, another booming industry. We continued to expand the Vineys Ln. growing area till we had an acre of heated glasshouses.

After a number of successful years at Quarry Rd. I sold it and decided to ease off a bit and take a more active part at Vineys Ln. The nursery here operated under the name of Keith Wallace Pty.Ltd. Things were going nicely, especially for some one who was happy to work just 4 days a week, until the state Government brought in the present water restrictions due to the prolonged dry period. Suddenly the nursery trade was thrown into turmoil. Nurseries were closing left right and center. We knew we had to have a very close look at what we were doing. We did a complete reorganization of the lines we were growing and deleted some while adding other more suitable varieties. As one of our glasshouses had been used to grow Phalaenopsis, and as there was a large unfilled demand for them as Flowering Plants, we decided to convert that house to their culture. We had decided that while there was a good market for flowers, we decided not to go there as you needed the flexibility of either oil or gas to control the botrytis spotting that is the curse of white phalaenopsis flowers.

We are now heating with coal, using a modern Boiler that we imported from New Zealand. While it is very economical to run it is more difficult to get exact temperature controls, so we decided to grow for the Pot Plant trade. There are so many different colours to choose from and varieties that seem to be much more resistant to spotting. White is still a popular colour and these are grown trouble-free in winter while the heating system is operational.

The place to buy Phalaenopsis in flasks now is Taiwan. With the help of another nursery, who had contacts there, we imported our first batch in 2003.

As we still had black tree-fern available, we put this through the hammer mill then added a little granulated styrene. The plants grew ok but not special. We had by this time good numbers of plants so we carried out a range of experiments using different growing mediums in a number of different combinations. The problem with the tree-fern was that it did not retain enough moisture and we knew we could do better.

The mixture that gave the best results was a combination of coarse perlite, peat moss and granulated styrene foam. We found that this mix drained freely but retained moisture. The plants loved it, and when grown in a home situation, where 90% or more end up, the owner had no trouble looking after their purchase. In fact the plants did so well that the flowers lasted up to 5 months, which is extraordinary value for an indoor flowering plant.

Now we come to the important part: how does the amateur collector make their plants thrive. The biggest problem will be heat. Possibly the cheapest form of heat today is reverse-cycle air-conditioning. If the capital cost is too great, perhaps an electric fan heater is the go. If gas is used great care must be taken to avoid any exhaust gases entering the house, as phalaenopsis are particularly sensitive to this. If possible an absolute minimum temperature of 16 degrees should be maintained. Should the temperature fall below this on an extremely cold night, this should not be a problem, as long as it only occasionally.

For a growing medium we suggest a mix of say 4 parts super coarse perlite, 3 parts granulated coarse styrene foam, and 1 to 1.5 parts sphagnum peat moss. Again coarse is best. Ground limestone at the rate of 10gm per litre must be added to the mixture. As it is a very light mix we use river pebbles of about 30 to 40mm in the bottom of the pots for stability.

The above mix can and should be varied to suit each individual's environment. The plants should only be watered when they are just moist. The intervals will vary greatly according to the

weather and temperature. Quite often watering is required more often in the winter when the heating is on, than in summer when it is humid. Experience and keen observation is the answer. Air movement should be constant, a small fan is an easy answer. In the warmer months allow plenty of ventilation. All plants love fresh air and phalaenopsis are no exception.

Possibly the most contentious question of all is that of fertilizers. We use aquasol and have for many years. People who have visited the nursery, I think will admit, agree the results are good. I am sure that there are other fertilizers that are as good or possibly better, however we know how to work with it. One of the great furphys about fertilizers is this business of using different ones at different times of the year. Now I am sure that this could and indeed should work, however there are two questions I have asked of people who promote a particular fertilizer and have never received an answer. The questions are: 1 'What should be the correct chemical make-up of the plant at any particular time'? And 2 'What is the chemical make-up of the plant at that time'. The answer I receive to both questions is; "I don't know". I believe under those circumstances it is not possible to say that the plant needs a particular nutrient or fertilizer, unless it is laboratory tested for soil and leaf analysis. I know that where leaf analysis is available in large organizations, better results are definitely achieved, but for most of us the best method is to choose a balanced fertilizer. Stick to the manufacturer's recommendations, watch the growth of the plants, and adjust this as necessary. Above all be regular. We fertilize every week in the strong growth periods and fortnightly in the lesser growing times. Phalaenopsis are in constant growth, so check the root tips often as there is no food in the growing medium, and the plants don't like to go hungry.

When taking plants from the flask, December is the best time. There is good light which is important, and the temperature is to their liking. The plants will be well established before winter and ready to plant into single pots the following spring. We always plant into seedling trays and use the same mix as for adult plants.

Phalaenopsis are relatively easy to grow if the right conditions are provided. They grow quickly and flowering can be expected in 18 months from the flask. As the flowering plants get larger, cutting the old flowers off at the highest node will encourage further flowering, thus making it possible to have flowers all year.

If you want to try growing them inside your house, be prepared to buy well established healthy plants. Provided they are given plenty of light, not direct sun, there is no reason you should be unsuccessful. It is worth a try. Whichever way you go, I can assure you that you will be well rewarded by this special plant.