

### Introduction and Principles

When growers first start out, their most common question is 'what do you pot your orchids in?'.

Of course orchid potting mediums are important, and I will eventually get on to talking about orchid mediums and which is which, *but before I go there* I want to tell you that the answer to that opening question is meaningless.

There are as many different epiphytic growing mixes and mix components as there are orchid growers. And just about every combination is successful in the hands of at least one grower, and maybe many, while it will at the same time be a hopelessly failure for another grower.

Now why would that be so? It seems there is much more to success than just the stuff you put in the pot.

**First** – the orchids are such a diverse family. There are many different kinds of orchids and different orchids that need different growing culture (including different mixes). Some need warm humid conditions, some come from mountain areas and can't stand hot summers. Some come from areas that are wet all year round, some come from areas that are much dryer, some from areas with very distinctly seasonal conditions. And, as you might expect, for each of those extremes there are hundreds of orchids occupying regions on a sliding scale of conditions between all the extremes.

**Secondly** - humans (especially orchid growers) are also amazingly individual and also inventive. Of course one individual will find a way to be successful with a variety of orchids in their own favoured mix. But successfully growing an orchid is a result of the hopelessly tangled blend of potting medium, environment, skill, and cultural practices. Those who get good at it seem to know instinctively what they need to do in each area.

Magic? Sometimes it may seem to be magic but I suspect that growers that can grow everything have just been around orchids long enough to have sufficient experience with dozens of different kinds to grow a wide range well.

And for any new types they don't know, their experience enables them to assess its likely needs by understanding where it comes from and what it looks like. They might not get the culture 'spot on' first go, but they will be close enough to start the orchid out on an acceptable path and to subsequently fine tune its culture as it grows. They get very good at assessing how a plant is growing and whether they think it is good/bad, or just ok.

### *So where does that leave a Less Experienced Grower? They can't yet do all that.*

Unfortunately, there don't seem to be any short cuts to gaining years of experience and knowledge.

It is a little easier for a new grower if they decide to stick to a narrow subject range. For example to just growing Cymbidiums or just growing Australian native Dendrobiums, or some other clearly defined type. If you are only growing one type it is easier to learn how to do it by research and by working with others already growing that type. But sadly, orchid fever seems to afflict nearly everyone and makes us want one of every gorgeous new orchid we see.

So assuming you like lots of different orchids, let's start with some principles.

#### **Rule 1 – Don't Expect To Grow All your Orchids exactly the same way**

You know you are going to have to learn a lot. Restrain your desires. You won't be able to grow everything well at the beginning so **choose your most favoured types** and learn to grow them first.

AND, if are going to learn about something, don't do it superficially. Do it well and do it thoroughly.

#### **Rule 2 – Have a Plan on becoming a good grower**

I believe the best plan is to learn. And I don't mean learn to be a grower. I mean learn about orchids, and do it one type at a time. It is impossible to stand far enough back to see 'orchids' as a singular group.

Choose the orchid group you are going to study and start learning all you can about them. Understand the geographical region where that group come from, what that environment is like there, what the seasons are like, and what kind of situation the orchids grow in. Are they hot lowlands orchids or from the cooler forests on the sides of hills/mountains. Do they grow high up in trees where there is good light and good air movement – or do they grow low on mossy tree trunks in shadier conditions where the air is more humid and more still.

Having a confident understanding of what your target orchid grew up to expect as a premium will allow you to make adjustments when you believe there is something wrong. You don't need to perfectly match its gene imposed expectations. Orchids are generally much tougher and more flexible than that, but to know what you should be aiming for is at the heart of understanding orchid growing. Learn and be confident in what you know.

If you aren't confident in your knowledge and understanding, you will be forever second guessing what is happening.

**Places to Look** - For species orchids the needed info is often available on the internet, even if sometimes you might have to spend a little time looking and reading. One good site is the free access **Internet Orchid Species Photo Encyclopedia** at <https://www.orchidspecies.com/> Having that site as a bookmark in your browser is a good idea.

Another excellent source is the set of books written by **Charles and Margaret Baker** called **Orchid Species Culture**. Each of the 4 books focusses on one section of the orchid family like 'Dendrobiums', 'Oncidium/ Odontoglossum

alliance’, etc. The Orchid database called Orchidwiz had a license arrangement with the Bakers to include their environment and climate data and culture info, which has been tremendously helpful but Orchidwiz will not be continuing. If you can still purchase a copy of the last version it is well worth it even now.

Of course for hybrids, there is no native environment or habitat, but behind every hybrid there is one or more species and the genes of the parent species provide every characteristic of the hybrid. Considering the parents habitats and environmental requirements does provide the likely requirements of the hybrid and in many cases you don’t need to look at every possible parent gene. For example, in large flowered Cattleya hybrids, the general background of many of the parent species are very similar and that is all you need.

Hmmm. That sounds like a lot of learning, doesn’t it.

You are probably thinking that you don’t want to get in that deep, and don’t really need all that, but your understanding of why an orchid looks the way it does - fat roots (far right), thinner roots (right), stiff thick leaves or grassy thin leaves, or big, wide, pleated leaves), and its natural environment, are all part of how it needs to be grown.



### ***Rule 3 – Accept that you will discover ‘Contradictory Truths’.***

You read books and material on the internet. You go to society meetings you hear culture classes and guest speakers, you see fabulous orchids benched and talk to their growers.

Sometimes it will seem to you that the information you absorb is full of contradictions – and it is. One grower only uses Peat and Perlite, another swears by sphagnum moss, another pine bark. One will say this orchid needs a heated glasshouse, another says ‘I grow it hanging under a tree in the garden’. How does the inexperienced grower come to terms with these contradictions?

A very small part of what you get told is just plain wrong. Not deliberately so - but people do make mistakes and sometimes we reach wrong conclusions. We are all learning all the time and sometimes our experiences make us think we have worked something out and we share our ‘knowledge’ only to learn later we were wrong.

***But the biggest cause of contradictions is because every grower grows in an environment different to every other grower. Their experiences are very different. What is true (or works) for one grower doesn’t make it true/work for every other.***

Growers in Cairns in Qld experience very different conditions to growers in NSW. Even in a smaller habitat range within Sydney, growing conditions in the Manly area are very different to those that growers in Richmond experience at the foot of the Blue Mountains. You need to find your own truths. That is, those applicable to your local environment, your way of life, and the micro environment of your growing area.

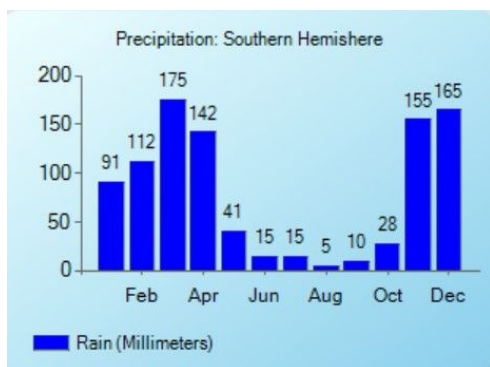
When you are learning, take each growing advice as at least one way it can be done but don’t read it as an incontrovertible law of the universe that must be followed. Apply it as part of your quest to understand how that species (or hybrid type) grows, what it needs, and what it can tolerate.

### ***Rule 4 – Your Plan should be more than just absorbing data. Try to work out WHY things happen.***

All things happen for a reason. The physical characteristics of every orchid came about through the pressures of evolution. Physical characteristics have a reason.

If an orchid has thick stiff leaves and minimised pseudobulbs like the mule ear orchid *Trichocentrum splendens* (pic below), it doesn’t take a genius to figure out that it probably evolved to tolerate dry conditions.

The habitat description in Orchidwiz says “Honduras, Nicaragua, and probably Guatemala. In Nicaragua, plants grow on rocky hillsides about 10 miles (16 km) north of Esteli at 825-850 m elevation. Large colonies are found growing on rocks in other semi-arid areas around Esteli. In Honduras, plants grow near Tegucigalpa, but habitat details were not available”.



The annual rainfall chart provided by the Baker’s for the Honduras area is shown at the left (but switched to relate to southern hemisphere seasons). It shows 6 months of only about 25 mm rain per month (that’s one inch of rain) and even in the wet seasons the wettest month only rising to 175 mm (7 inches). That is pretty dry.

This orchid looks the way it does because of where it grows and what it experiences.



Naturally, appearances aren't always as cut and dried as that. Just about all Trichocentrums have thick stiff dry looking leaves but they don't all grow in the desert. Perhaps the first primitive Trichocentrum species went this way thousands of years ago and all species of the genus since are just variations off that original plan.

The more you learn and see of the amazing variations among the orchids you can't help but begin to correlate an increasing range of physical characteristics to climate and habitat.

Start to learn and do it thoroughly. Don't be satisfied with "Cattleyas grow in an open bark mix". Find out why.

***Rule 5 – Changes in growing progress also only happen for a reason***

When your orchid was growing ok but now seems to be on the decline, something is going wrong. Be the detective again. Question your own actions first – the cause is frequently there. Have you changed anything? Did you change your potting medium, watering rates, did you switch fertilisers? Did you calculate the dosage rates right? Is that new potting medium a problem? Has it been in the pot too long and the bark is going off?

Alternately, check to see if mealy bugs or aphids or scale have suddenly appeared among your orchids? Has it rained every day and kept them soaking for long periods - drowning them? Is it getting too cold or too hot for them?

And finally, if you do decide to change something in your growing practices, ***never make multiple changes all at the same time***. Not only is it 10 times more difficult to work out which one in its own right be responsible, the problem is even more complex because of issues that might arise from some combination of your alterations.

Be methodical in your culture. Do things for a reason. If you are of a mind to change some basic component of your culture, ***make changes on test plants first*** and only broaden out once you are satisfied over a reasonable time that results were positive.

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The next two parts of this series are going to cover the information a new grower needs to decide what kind of potting medium is needed for which orchid. However, the 'doing' part of that discussion requires a base of knowledge about the kinds of orchid potting materials commonly used and commercially today.

So, as frustrating as this may seem to many readers, I have decided to deal with the explanation of potting mediums first, and that will be the next subject.