

Orchids can be grown in, or on, a wide variety of materials. What works for one grower, may be totally unsuitable for another grower, due to differences in environment, watering schedule, water quality, light levels, air circulation (or lack of same), etc.

Each grower needs to make 1 or 2 selections, and see how those materials work out for their conditions. If you can't control watering in fibrous sphagnum moss, try to use a granular material, or perhaps switch to semi-hydroponic growing methods. If you want to water all your plants **on the same schedule**, you might want to use 2 or 3 different potting mixes, where the choice depends upon a combination of the pot size, pot type and plant watering requirements.

There is no 'right' or 'wrong' in making these selections. Obviously cost & availability are two of the factors, but in most cases it is like a trial marriage, only time will tell whether a specific mix works for your plants and the care regimen you are able or willing to provide.

### Fibrous Materials

**Chunky Peat** is difficult to find (I get it from Roberts Flower Supply in OH), but it holds a lot of water and works well mixed with bark, charcoal & perhaps some Aliflor. It is almost agriphobic until watered up, which may require 6-12 waterings over the first 48 hours.



I have used it as primary potting medium for Phalaenopsis, intergeneric Oncidiums and in particular Cymbidium & Zygopetalum. If you sift the smaller chunks out, these can be used in a Paphiopedilum mix also.

**Coconut Husk Chips** require multiple soakings to get rid of the salt. Works well for Cattleyas, when mixed in with bark, charcoal & Perlite (= Waldor Orchids Cattleya mix).

**Sphagnum Moss** is sold dried. When reconditioned with water, it holds 10 times its weight in water, and readily releases it to the plant. It is usually mixed with 10-40% bark & charcoal, depending upon pot size & type of orchid.



- If allowed to dry completely, sphagnum turns agriphobic, and can be diffi-

cult to wet again.

- In winter, plants potted in a sphagnum mix will only need watering once every 7-14 days, unless your conditions are very dry.
- Sphagnum is invaluable for seedlings & backbulb divisions without roots.

**ProMix** is primarily milled sphagnum. It is too dense for my taste, though a few nurseries do use it for orchids. Cattleyas grown in ProMix tend to get 'splotchy' leaf markings, so I advise against using this medium. I only consider ProMix as a secondary ingredient in Cymbidium mixes.

**Tree Fern** fibers are mostly seen in plates or poles for mounting, but can also be used as loose fibers. This material drains very rapidly, so it requires more frequent watering.



### Granular Materials

Granular materials should be selected not only for their respective properties, but also in size or nugget dimensions appropriate for each group of orchids.

**Aliflor (LECA)** = lightweight fired clay pellets, with a porous surface. This building material (used for foundation insulation in Europe) is well known in semi-hydroponic culture, but it is also a good aerator in both bark/charcoal & chunky peat mixes.



Available in sacks from Hydroponic supply stores. Sacks contain pellets of all sizes, so sifting is recommended if you intend to use this material in a mix requiring smaller particle sizes.

LECA pellets do not break down, but I do not recommend extracting them from broken down potten mix for re-use. You do not know what pathogens the pellets might contain.

**BARK** can be from fir, redwood, etc., Bark nuggets are available in 4-5 sizes, ranging from 1/8" for seedling mixes, to 3/4"-1 1/2" for use in Cymbidium mixes and Vanda baskets.

Bark can be used by itself, as well as mixed with both other granular materials, and the fibrous materials. The larger the nugget, the longer it will last in the pot, but that might not be the most suitable size for a given plant.



**Charcoal** is available in nugget sizes similar to the bark.

While there is no science to back this up, many feel that

adding 10% horticultural charcoal to the potting mix, helps keep the mix fresh longer (I use it too).



**Diatomite.** Primary ingredient in the 'Aussie Gold mix. I have no personal experience, as I dislike materials that make a 12 plant tray too heavy to carry around in the greenhouse.

**Lava Rock.** I have never used this material. I have read that you can use red lava rock, but not black lava rock. Depending upon the source, it may need rinsing, and possibly weathering, to get rid of undesirable dust and salts.

**Orchiata.** It is claimed that this bark material from New Zealand can last up to 10 years, and it is used extensively by commercial growers in Hawaii.

Since most orchids outgrow their pots in 2-3 years, I fail to see the advantage of this material over the traditional barks. I am not aware of any scientific study comparing the long term growth in Orchiata vs traditional barks. I do know that:

- I have to repot plants coming in from Hawaii, since the coarse nuggets they use are unsuitable for the conditions provided in the greenhouse here.
- It is an imported material, vs domestically produced barks from CA.

**Pebbles.** Granite for some lithophytes, such as Den kingianum, and perhaps limestone for some of the Paphs (Brachypetalums, as a secondary ingredient to organic materials only). Like lava rock, growing in pebbles requires a great deal of watering during the growing season.

**Perlite (aka sponge rock).**

This material comes in several particle sizes.

An important ingredient in many mixes, in particular for seedlings, Cattleya, Miltonionopsis, Oncidiums & Paphiopedilums.



**Other:** From time to time you encounter plants grown in other materials. Some are more practical, attractive, or attention getting than others. For example, I have seen blooming size Vandas grown in baskets filled with:

- Clay pot shards
- Wine bottle corks

**Terrestrial Orchids**

Terrestrial orchids require a soil based mix, which can be based on numerous ingredients. I only grow a few, primarily Cymbidiums and Calanthes & Phaiocalanthes. My choices are shown below.

**What do I use?**

To balance the watering schedule in the greenhouse, currently I use:

- Cattleyas:** < 4": **Plastic Pots**  
Chopped sphagnum with seedling bark (25%), charcoal (10-15%) & perlite (5-10%).  
> 3": **Clay Pots**  
Bark/Coconut Husk Chip/Perlite mix
- Calanthes:** **Plastic Pots**  
Medium chunky peat, composted manure & perlite (2:1:1 ratio)
- Cymbidiums:** **Plastic Pots**  
Coarse chunky peat composted manure, bark & perlite (3:2:1:1 ratio)..
- Dendrobiums:** **Clay Pots for 'Aussies'/nobile types**  
**Plastic Pots for formosum types**  
Mostly Sphagnum/Bark mix.
- Miltonionopsis:** **Plastic Pots**  
Seedling size bark (50%), charcoal (25%) & perlite (25%).
- Lycastes:** **Clay Pots**  
Sphagnum/medium bark (25%).
- Paphs/Phrags:** **Plastic Pots**  
**Seedlings:** Chopped sphagnum with seedling bark (25%), charcoal (10-15%) & perlite (5-10%).  
**2"-3½" pots** Sphagnum with 25% fine bark & 10% fine charcoal.  
**4" & up pots** Bark (fine & medium), 15% fine charcoal & 10% Perlite.
- Vandaceous:** **Plastic Net Pots up to 5" size**  
**6" & 8" Octagonal Plastic Baskets**  
Sphagnum mixed with bark (20-35%) & charcoal (5-15%). Higher numbers apply to the larger baskets. Very large plants are grown in pure bark, medium to large nuggets.
- Zygopetalum:** Cymbidium mix without the manure.

I have used other combinations in the past. When I could get chunky peat sorted into different sizes, I used fine peat nuggets for Paphs (mixed with bark, charcoal & LECA).