

More on Terrestrial Culture

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My method of terrestrial culture has been developed over several years of trial and error. It consists of a basic mix of 50% propagating sand and 50% general indoor plant potting mix but avoid using the type which has fertiliser or water crystals added.

I grow terrestrial orchids from several different groups and change the potting mix to suit those species which come from dryer inland areas which receive 600 mm of rain or less per year. This type of orchid is usually found in hard, water resistant soil or stony habitats with little moisture retention. For this orchid group I use 75% sand.

In all pots I begin by covering the bottom of the pot with a circle of fly screen mesh which should be cut to enable it to cover the drain holes in the pot. This is done to prevent any pest from crawling into the bottom of the pot and eating the tubers and it will not prevent proper drainage. On top of the mesh I put a 25 mm layer of styrene foam cubes, either cut or broken into pieces about 15-20 mm. This allows for the best drainage possible and will prevent the tubers sitting in water for long periods. However those species which prefer to be constantly moist (*Pterostylis baptistii*), I would place the pot in a small plastic saucer to allow some moisture retention but this should only occur after the plant has produced a rosette. No water should be given until something green is visible on the top of the pot.

When potting tubers, first put in the mesh, then foam, followed by potting mix to within 50 mm of the top of the pot. The tubers are then arranged around the pot and covered with more mix which in turn can be covered by a layer of *Casuarina* needles. This is to retain humidity and prevent erosion of the mix when watering. Tubers have a top and bottom, with the top resembling an orange or apple with a slight recess where the stem will emerge. It is desirable but not essential to put tubers the right way up, however as the tubers know which way to grow, they will always grow to the top. Tubers can take various forms with most *Pterostylis* being generally round, while *Diuris* are parsnip shaped, although some can simply be simple longitudinal strands like spaghetti. As some *Diuris* are lengthy (100 mm plus) a large pot (175-200 mm) is preferred and the tubers can be laid horizontal. Be sure not to have all the ends pointing the same way as all plants will emerge on the same side of the pot. Experience will allow growers to differentiate between each end of these tubers. As *Diuris* frequently grow very tall, tubers should be planted at a minimum of 50 mm but closer to 60 mm will provide greater strength for tall stems.

Potting is preferable during late December to early January when plants are dormant. Try to avoid plants being subject to long wet periods for a few weeks after potting. I use a Cymbidium type pot for terrestrials and a pot size of 140-150 mm can hold up to 24 tubers. However this is one orchid group which does not need to be snug in the pot but recognized the moisture holding capacity of the mix.

The vast majority of terrestrials is deciduous and emerges after summer to autumn rain. One group (Cauline) has stem leaves and does not flower from the rosette, which is in effect a non flowering plant. These are mainly autumn flowering species. The rosette type usually flowers from winter onwards, although some species flower earlier. When plants first emerge, watering can commence but only every 10-14 days, increasing to weekly as growth and flowering occurs. When flowering has concluded, keep plants as green as possible for as long as possible to ensure strong tubers for the next season and only when growth has vanished can water be reduced to a minimum towards the summer period.

Repotting should be carried out annually for most *Pterostylis* but should be left no longer than two years, as any new plants produced will gravitate to the edge of the pot and eventually emerge from the drain holes, resulting in over-wet tubers which will eventually rot. *Diuris* and similar can be left for more than one year depending on tuber numbers and pot size but if in doubt tip out the pot and check the condition of the tubers. Ideally plants should be totally dry before division and repotting occurs as tubers are easier to handle and find in the mix. When repotting, empty the pot into a sieve or strainer to separate the tubers. If repotting has been delayed, new shoots will have begun to show and extreme care must be taken as these are very brittle. Do not wash the old potting mix from the tubers as this contains a fungus produced by the plants and is beneficial in a fresh mix. The amount of mix which has adhered to the tuber is sufficient for this purpose, however as some tubers often emerge without potting mix attached, a tablespoon in a 140 mm pot is sufficient for this purpose.