

## How to deflask orchid seedlings

Growing cross-pollinated orchid seedlings from a flask allows you to grow new crosses and perhaps find a spectacular new show-winning orchid. Seedlings grown from mericulture on the other hand are likely to give you clones very similar, if not the same, as the parent plant. Either way it's an exciting way to test your expertise.

There are many different ways of deflasking and you need to find the one that works best for you or perhaps combine the elements from different approaches.

The following notes outline two of the deflasking methods used by successful orchid growers.



Before you deflask, ensure the seedlings have developed good root systems. If not, leave them in the flask at 23°C and 15 hours light per day until they are ready. Do not open the flask until you are ready to deflask as fungi may enter. There is a small hole in the flask top that enables air to exchange.

Preferably deflask in warm weather when plants are actively growing.

If flask becomes contaminated with fungus, deflask immediately and treat seedlings with fungicide after removing all agar by washing. If the agar is scrambled in shipping you should tap flask gently to resettle agar and seedlings and allow them to grow, otherwise deflask asap.

### The Wayne Turville method (see reference 1).

1. Have a clean sterile work area.
2. Shake firmly or break the flask to slide out the seedlings.
3. Wash off **all** the agar in luke warm (23-25°C) running water. Leaving some agar can encourage unwanted fungal growth.
4. Pull the orchids apart and place seedlings in 2" plastic or peat tubes and place a fine moisture retaining media such as rice grain size bark and small Perlite beads. Tap gently to firm the media.
5. Apply fungicide drench such as Bayer's Previcur after potting to control pythium and phytophthora.
6. Water and place the plants in a humid location and low light for a week or so to allow them to acclimatise.



Plants with good roots ready for deflasking

### The Canberra Orchid Society community pot technique (see reference 2)

1. Shake or break the flask to slide out seedlings.
2. Wash the agar from the roots in warm water, disentangle the plants and place on clean paper towel and allow seedling to partially dry for 30-60 mins. (soak in fungicide solution after washing if necessary)
3. Moisten sphagnum moss and the squeeze out excess moisture and fluff up moss.
4. Make a thin pad and place first row of seedlings on it, add more moss then more plants until there is sufficient to fill a small 4" pot.
5. Put a cut-off plastic drink bottle over pot to maintain humidity for a couple of weeks.
6. Place plants in a warm place (about 23°C) with low light for about 2 weeks. Once the community pot has grown and seedlings are crowded, pot seedlings up individually.

Composite or community pots are favoured by some growers when deflasking. The disadvantage is that if plants get infected with fungal disease you are likely to lose whole pot.



### Other tips

- Flasks can be purchased at orchid shows, online or from specialist growers. You can bring back 6 flasks per person in your luggage through quarantine when returning from overseas. Make sure they have no fungal growth and you declare them.
- Do not deflask immediately you receive the flask, allow them to acclimatise for a week, or longer if they need to grow more.
- Ensure you use clean water and growing media as fungal growth is a potential problem.
- Remember to label the pots after potting.
- Some growers recommend placing seedlings in an anti fungal disinfectant solution for 15-20 mins before potting. Others suggest soaking briefly for a few minutes in antifungal solution after washing off agar before you pot up.
- Don't overwater seedlings. They may need no water if kept humid, just mist lightly if necessary for first fortnight. Preferably cover with plastic cover for first two weeks to keep humid.
- A root hormone stimulant can be applied after about a week.
- Pots can be placed in a translucent plastic tote tray with a clear lid that is gradually removed. Don't water for the first week, just mist to keep air humid.
- Avoid using fungicides unless necessary as it can slow growth. However if damping off occurs, spray immediately with Benlate®, Fongarid®, Previcur® or similar fungicide.
- Deflasking is best done in spring or autumn. When growing seedlings in cool weather, a heat mat is recommended to keep the plants growing.
- Remember to sterilise the bark and pots with boiling water. If using used tubes sterilize them first with 10% White King (0.4% sodium hydroxide) for at least half an hour (4).
- To increase the growth of transplants from a flask Ken Jones (3) from the Orchid Society of WA found that ensuring the potting medium has a pH of about 6 is important. Many flasks have become acid over time with a pH as low as 4 unless they are pH stabilised. Adding dolomite lime to the potting medium will help achieve this less acid pH of around 6 as well as adding additional calcium and magnesium which are both important for plant growth. He found applying calcium nitrate at 1g per litre (1 teaspoon per litre) to compots and avoiding ammonia (NH<sub>4</sub>) based N fertilizer for the first 2 months reduces problems with black rot in transplanted seedlings (see reference 3 for more detail).

Protect newly deflasked seedlings and keep humidity high with a plastic cover.



*Your comments and suggestions on this guide are welcome.*  
*Email your comments to* dearconsultingservices@gmail.com

## References

1. Practical Guide to Australian Orchid Growing by Wayne Turville (2009).
2. Growing Orchids in a Cool Climate Australia. Ed by MJ Fraser, J Wright and W Ferris. Orchid Society of Canberra (2013).
3. Thoughts on deflasking orchids and maximising growth in compots. Ken Jones. Species Orchid Society of Western Australia.  
[http://members.iinet.net.au/~emntee/Thoughts\\_on\\_Deflasking.htm](http://members.iinet.net.au/~emntee/Thoughts_on_Deflasking.htm)
4. Deflasking Australian native orchid seedlings. Flora laboratories.  
<http://home.alphalink.com.au/~andre/deflasking.htm>

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