

Growing Orchid Seedlings from Flask

If you have a little patience, and can give them the right conditions, buying flasks with orchid seedlings is a good way to acquire multiple plants, so you may select for the best, have presents to share or sell a few plants to help paying for your hobby.

Flask Sizes

Generally there are two flask sizes available:

- Standard flasks:
 - US = Traditional 500 ml flask holding 25-35 seedlings (qty depends upon genus); often replaced with plastic laboratory tubs (similar to deli tubs).
 - Asia= Horizontal gin bottle with 40-60 seedlings.
- Hobby flasks = 6-10 seedlings

Not every breeder offers hobby flasks (photo), but I have purchased this size from Carter & Holmes, Ruben, Woodstream Orchids and Hengduan Biotechnologies (Perner) in China.



Conditions

Orchid seedlings out of flask require:

- High humidity.
- Higher temperatures than mature plants (unless you want to grow them 8-10 years)
- Somewhat lower light until they are well established.

I use a plastic storage tub with clear lid, to create a 'mini greenhouse' with water in the bottom. The tub has 7/8" holes drilled in the sides, so I can insert 3/4" PVC conduits to carry a shelf (either 'egg crate' or a section of wire shelf, depending upon size of the tub).



For use in the greenhouse, I drill a drain hole about 1/2" below the level of the shelf carriers. For use in a house/basement, you might want to install a drain valve, so you can empty excess water from the bottom. To provide the slightly higher temperature required, I place this tub on a seedling heat mat.

Deflasking

Some 'flasks' are jars, with a screw lid the same di-

ameter as the jar. With these you can gently shake the agar 'cake' with the seedlings out of the jar. If the agar is stuck, add some lukewarm water and swirl till it releases from jar.

When seedlings are in a narrow neck glass flask, you must break the flask. Some recommend wrapping the flask in a couple of pages from a newspaper, and then tapping with a hammer. Others recommend doing it in a bucket with water, holding the flask under the surface while breaking it with a hammer.

I usually do it in my hand, tapping the bottle on the bottom edge (both hobby & 500 ml flasks), or on the shoulder of gin bottles. Hold the bottle by the neck



(off photo), and tap gently where indicated with the hammer. I have deflasked some 50+ flasks in this way, and only cut myself once (that bottle sorta exploded in my hand).

Cleaning

First remove any glass splinters. Then, you want to remove most of the agar, but do not go crazy. You can scrape off chunks where there are no roots, and you can rinse off more by spraying with water. When rinsing off the agar, do this over a colander to catch any seedlings falling free.

Aim for this level of agar removal (abt 80% removal):



To Separate - or Not?

If at all possible, do NOT separate the seedlings. There are two reasons for this:

1. Individual seedlings in a 2" pot do not grow as fast as a group in a community pot. I can't explain this, but I have tried both ways many times, and seedlings in compots always grow better (possibly due to more consistent moisture in the pot).

2. In some genera, the roots produced in the flask are very brittle (and intertwined). If you try to separate the seedlings, you will break off most of the roots).

If the seedlings separate by themselves while you clean the agar off, you can pot them several to a small pot (individually only if very large). If they do not separate by themselves, **leave them together** and plant the lot in a single compot.

Potting Mix

Obviously you cannot use a coarse bark mix. There is some difference of opinion between individual growers as to which mix to use. Each grower needs to decide, which mix will work best **with the watering schedule that he/she can provide.**

Some growers use pure sphagnum, others use a predominantly granular mix. My preference is finely chopped sphagnum (cut with scissors, into about 1/4" lengths), seedling bark, charcoal and perlite, in approx. 5-2-1-1 ratio.

I place the seedlings in a 3½" or 4" pot, and carefully pack mix around the group. I try to work some mix in between the plants as well, using a small stick.

Here are two fresh compots from hobby flasks:



After the plants have spent 10-18 months in compots, developing new and stronger roots, with freedom to grow in all directions, it is much easier to separate the now larger seedlings. On occasion two plants might still have roots firmly intertwined, in those cases, you can leave the plants together, till they eventually grow in opposite directions.

For comparison, here are 3 other compots from hobby flasks, some 10½ months after deflasking; they are ready to be split up (with the smallest plants going 2-3 pcs together into mini compots).



Lastly, here is a compot from a nursery in HI. Seedlings are in pure sphagnum, and have been in this compot for 9-10 months.

This compot is ready to be split up now (Update: there were 26 seedlings in that pot).



Fungicide?

Some 'authorities' recommend treating the newly deflasked seedlings with fungicide. They come from a sterile environment, so I do not understand this recommendation, and have never done it. Of course, if the seedlings show signs of a fungal attack later on, by all means treat them.

Next Step

Once you break up the compots, you can grow these larger seedlings at normal temperature & light level for the genus. I do recommend using a finer mix than you do for mature plants. I do not use 'mature Cattleya' mix till the plants go into individual 4" pots.

Drying Off?

Some writers recommend letting the seedlings dry off before you start watering. **I disagree strongly.**

These young plants come from a 100% humidity environment, and have had their roots in agar for the past 8-16 months. They should be watered immediately after being potted up. This also helps settle the mix in between the newly potted seedlings.

Special: Phragmipedium

These require slightly different treatment in that:

1. They do not just want to not dry out, they want to be WET. Use a higher percentage of sphagnum, and place the compot in a saucer with 3/4" water.
2. They also want lower light than most other orchids. In a greenhouse with 50% shade cloth, I still add a layer of 50% shade cloth on the seedling tub.

NOTE: Because we keep them so wet, plan to repot all Phragmipediums every 12 months.

You do not want 25 plants?

Few people want 25 plants of the same thing. Think about going in on several flasks together with 2 other growers, and you will get 8 plants of each of three different crosses when you break up the compots.