Dr. Bill's Orchids, LLC Basic Culture Sheet – Phalaenopsis (Phal)

Water:

How often you water will depend on the potting medium. Bark retains less water than moss. If your phal is potted in bark watering once a week is generally sufficient. If your plant is potted in moss, water when the center of the pot is almost dry. The top of the moss can dry out before the center of the pot- don't fall for the trap of thinking that it has to be watered! The amount of light and heat your plant receives will also affect how soon your Phal needs watering. Summer months will need more frequent watering, Winter will need less. I normally suggest checking with your finger down to the first knuckle in the media to determine moisture levels with any new or newly repotted plant. Remember that new media will not retain water as well as "broken in" (not the same as "broken down") media that has started to hold water more. This is especially true with bark mixes. Once new media is "broken in", after a few waterings, you can usually tell by the weight of the pot whether or not it is time to water again. If in doubt, wait a day or two.

General advice usually suggests that it is best to water in the morning for most in-home growers. Why the morning? Because it allows any water that gets into the crown to dry out in the heat of the day before the temperatures drop- cold + water = asking for rot, bacterial, or fungal issues. Some people have suggested using the corner of a paper towel to blot any excess water out of the crown after watering- doesn't hurt, but not something I do. When watering, make sure to give it a deep drink as sometimes it takes a full 30-60 seconds before the velamen on the roots will start to turn green (sign of water absorption). I find my Phals all prefer tepid water, or basically anything that isn't cold. I did a small test of 2 sibling plants and tepid showed best growth when all other conditions were the same (next to each other on the shelf). Do not use salt-softened water as this will lead to salt-buildup.

Light:

Phalaenopsis are "low" light orchids (900-1500 footcandles). They grow beautifully in an east window and can be grown in a south or west window if protected by a sheer curtain. Artificial lighting can easily be provided. Usually artificial lights are placed 6 to 12 inches above the leaves*, 12 to 16 hours a day, following natural day length. General rule of thumb is that a Phal's leaves should be granny smith apple to olive green. If they are darker, it means the plant is not getting enough light; red tinged leaves can mean the plant is getting too much light**. An easy way to measure light intensity without a meter is that no shadow should be seen if you hold your hand one foot above the leaves.

Once the plant is in bloom you can place it anywhere in your home out of direct sunlight to enjoy. It can tolerate a little while of decreased light. If your plant does not re-bloom, increase the amount of light that it receives.

*height above the leaf canopy depends on the light intensity you're providing. Stronger lights should be farther away.

**with some species and then also some of the newer hybrids that are coming to the market, some leaves will have red anthrocyanins showing even if they are in almost near darkness. For mass produced hybrids, follow the green leaf rule. For species, such as Phal schilleriana, stuartiana, stuartiana var nobilis, etc, check to see what the natural coloration is before changing lighting.

Temperature:

Phals are easy to grow because they enjoy the same temperatures we do – above 60º F at night and a range of 70º F to 80º F or higher during the day. 95º F is the maximum temperature recommendation. For most "big box/grocery" store Phal types (*Phalaenopsis*, subgroup phalaenopsis), a 10-15 degree overall temperature decrease (down to 55-60F) is desirable for three or four weeks in the autumn to initiate flower spikes. Example: if you normally have day temps of 80F and night temps of 70F, your average grow temperature is 75F. You would want to decrease this to 70F day and 60F night temps for average grow temp of 65F. This overall temp decrease has been tested by a few Japanese studies in recent years and proven effective for many *Phalaenopsis* subgroup phalaenopsis types.

Novelty Phalaenopsis (species and hybrids made with Phals from Phalaneopsis subgroup polychilos, are heat-lovers. They tend to be called the "summer bloomers" because that is when most growers get warmest temperatures. Oftentimes, if you can keep temperatures at 75F or above, novelty phals will continue to bloom in the "off" months. An easy way to do this in the home is to set them on heat mats that have a thermostat controller- keeps heat where you need it, but doesn't cook the root system.

Keep in mind that temperatures close to the window on a windowsill will be colder or hotter than your general house temperature (if growing on a windowsill, or anywhere really, I suggest having a thermometer/hygrometer). Fluctuating temperatures can cause bud drop on plants with buds ready to open. Also be wary of placing in the air flow of a heating or air conditioning vent! This can easily blast buds and/or spikes.

Fertilizer:

Any balanced orchid fertilizer (look at the numbers on the container, 20-20-20, etc.). Even better if you have a fertilizer that also supplies micronutrients! If you don't have that on hand, generic Miracle Gro can be used to fertilize your orchid at ¼ strength once weekly until you do get a more balanced formulation. Feeding weakly (1/4 -1/2 strength from box directions) weekly works well. I feed at approximately 60 ppm N two or three times a week during warm months

and down to one or two times during cooler months. At least once a month, use plain water to flush any accumulated salts from the potting mix, this is especially important with Phals potted in straight sphagnum moss.

Humidity:

Even though they have thick, waxy leaves, Phalaenopsis will definitely appreciate humidity being between 50 and 80 percent. They will tolerate lower levels but will do best in the range listed above. In very humid climates, as in greenhouses, it is imperative that the humid air is moving to keep nasty infections at bay. In the home, you have a few solutions to increase humidity: 1) set the plants on trays of gravel, partially filled with water, so that the pots are not sitting in water 2) group plants together to increase local relative humidity 3) plant in an unglazed clay pot and then nestle that pot into another unglazed clay pot (Credit to Neill Sams of Orchid Alley Kauai for this idea) 4) add a humidifier to your growing area (I personally like ultrasonic humidifiers for indoor growing)

Potting:

Best done in the spring, immediately after flowering, but they can technically be repotted at any time. If done gently, it is possible to repot with open blooms, but you run the risk of shortening the bloom cycle duration, so usually easiest to wait until done blooming. Phalaenopsis plants must be potted an aerated media- porous bark mix or sphagnum that isn't overly compacted. Potting is usually done every one to three years. Mature plants can grow in the same container until the potting medium starts to decompose, usually in two years. Root rot occurs if plants are left in a soggy medium. Seedlings usually grow fast enough to need repotting yearly and should be repotted in a fine-grade medium. Mature plants are potted in a medium-grade mix. To repot, remove all the old medium from the roots, trim soft, rotted roots, and spread the remaining roots over a handful of media in the bottom of a new pot. Fill the rest of the pot with medium, working it among the roots, so that the junction of the roots and the stem is at the top of the medium. Most "box store" Phalaenopsis are potted in sphagnum moss and usually will benefit from immediate repotting once done blooming.

Cutting the spike:

Always cut with sterilized tools. When the blooms are finished, you can cut the spike down to where it emerged from the crown and the plant should bloom with larger flowers and a strong stem in the next year. You can also cut off the stem leaving two nodes (those little brown lines on the stem below where the flowers were) on the stem. One of these nodes will then initiate and generally produce flowers in the following months. For some "ever-blooming" species and their hybrids (*Phalaenopsis* subgenus polychilos), it is important to not cut the flower spike until it turns brown because it can flower for years off the same spike. At times, I will cut an ever-blooming spike before it browns if I want the plant to focus on leaf and root growth instead of flowering.

- It is also important to note that some Phals that are in box stores have been forced into a bloom cycle, so it can take 12-24 months for a Phal to resume blooming once it has returned to its normal, biological cycle (without much artificial influence, like putting in a chilling house).