

# Basic Survival Techniques

By Tom Harper

## THE FUNDAMENTALS

- Light
- Watering
- Fertilizer
- Temperature
- Humidity
- Reblooming your plant from existing inflorescences
- Pests and diseases
- Next year's blooming
- Repotting your orchid.

## LIGHT

Light is your #1 consideration and good culture begins with proper light.

Natural light from the sun.

- An east window is best or south with drapery sheers.
- A west window should be your last choice and watch the heat.

### Artificial light

- Plants must be placed close to the lights to be effective.
- Four-tube florescent fixtures work well.
- HID, metal halide or sodium lights are a good source for a large collection of orchids.

## WATERING

Watering too often is the fastest way to kill your orchid.

- Orchids do not like wet feet or a soggy growing media.
- Make sure your pot(s) drain properly.
- Regardless of the media used, allow your plant to dry between watering.
- Overwatering, aka watering too often, can easily lead to root disease problems with your orchid. Loss of roots may lead to loss of plant!
- Unless you have a salt-based water softener, tap water is usually okay to use.

## FERTILIZER

The use of fertilizers is overrated.

- Most orchids like to be fed but at a lower rate than is listed on the container.
- Consider using both organic (i.e. fish emulsion, seaweed) and inorganic fertilizers for complete nutrition.

Fertilizer composition is expressed as three numbers (i.e., 15-5-15) and

whether or not they contain added micronutrients

\*What the numbers mean:

- The first is nitrogen (N) percentage - This should be mostly from nitrate sources.
- \* The second is the phosphorus (P) percentage.
- The third is potassium (K) percentage.

In my experience, phalaenopsis grow best with a ratio of 15-5-15 with added trace elements and supplemental calcium and magnesium.

Another popular formula for those using ground water has a 19-4-23 analysis

- For small orchid collections, a more commonly available, so-called balanced, formula (10-10-10 or 20-20-20) will do.
- For these, use ½ to ⅓ the rate recommended on the container.

## TEMPERATURE

House temperatures are perfect for phalaenopsis and your plants will thrive in them but may not bloom again for you. (Stay tuned for how to rebloom your orchid.)

- Warm temperatures, daytime: 85 F (29.4 C) should be your maximum.
- 70-75 F (21-24 C) is ideal.
- Plants in flower will last longer in cooler temperatures, i.e., 65-75 F (18-24 C).
- A somewhat cooler nighttime temperature is better, i.e. 65 F (18 C).

## AIR MOVEMENT

While large environments (i.e. greenhouses) require large fans to move large amounts of air, small fans will accomplish the same in small environments.

- Air movement is important to the health of your plant.
- Do not allow the fan to blow directly on the plants. Deflect the air off a wall or direct the fan upward above the plants.

## HUMIDITY

Although house temperatures are perfect for growing phalaenopsis, humidifiers can be of value to add humidity to your environment.

Another option is a tray of pebbles with water added to it to the top of the gravel. Invert a pot and place your orchid on it. The evaporating water will add humidity to the surrounding air.

- Change water regularly to eliminate algae build up.
- Plants are happiest when humidity levels are near 60%.
- Lower daytime levels are okay, and higher nighttime levels are preferred.

## REBLOOMING

Phalaenopsis, unlike most orchids, can be reflowered from the old inflorescence. Immediately after the flowers fade, the stem can be cut just above the 2nd node on the inflorescence. With good care and proper temperatures, the plant may initiate a branch spike at the node. It should be noted that secondary spikes produced in this manner will have fewer flowers of somewhat smaller size than those on the original inflorescence.

## PESTS AND DISEASES

- The key to pest and disease control is vigilance.
- Phalaenopsis are affected by a minimum of pests, however, they are unsightly and can severely damage or even destroy your plant if left unchecked and untreated.
- Pests also can spread various diseases potentially infecting all of your plants if left unchecked.
- The most commonly encountered pests are:

Mealy bugs (see photo).

Spider mites.

Brown scale.

Always keep on hand sprayers and inexpensive controls. Technically and legally, a product must be registered for use on orchids to be okay to use on them. Products listed for use on ornamentals may be used.

Hydrogen peroxide (3%)

- An inexpensive, easily located antiseptic that is useful for control bacterial rot.
- Open diseased area and spray until the area is completely covered.
- Most effective when used with cinnamon powder.
- Sunlight and high temperatures

quickly decompose hydrogen peroxide into water as hydrogen escapes, so keep in the original brown bottle and refrigerate after opening.

- Use straight from bottle. DO NOT dilute.

#### Rubbing alcohol

- Effective as a spray for mealy bugs and scale.

Must be repeated often because it only kills on contact and only while wet.

- Alcohol desiccates, so it can dry out soft tissue. Do not spray on flowers. Doing so may collapse open flowers.

- Usually purchased as a 70% solution. Use either straight from bottle or dilute 50/50 with water

#### Horticultural oil

- A paraffinic super-refined petroleum oil.

- Use on aphids, mealy bugs and scale insects.

- Coats adult pests with oil thereby suffocating them. Also retards hatching of eggs.

- May safely be sprayed around open flowers.

- Keep container constantly shaken while spraying as oil will separate from water.

- Several oil types exist; read product label for specific uses.

- Typically diluted to 1 teaspoon per quart (about 6 ml/l) and used as needed. Do not store diluted oil.

Bayer Advanced Complete Insect Killer. Although not specifically listed for use on orchids it is approved for use on ornamentals. Always test product on a few plants first.

- Active ingredients are Imidacloprid and Cyfluthrin. The first is systemic (absorbed by the plant) while the other is a contact killer.

- Imidacloprid should not be used outside the greenhouse as it kills bees.

#### PESTS AND DISEASES

Both fungal and bacterial pathogens can damage and even kill your plant.

Sanitation and good cultural techniques will minimize such problems.

#### Bacterial soft rot

- The infected spot will grow quickly, eventually encompassing the entire leaf. The leaf will separate from main plant, but the disease can easily spread to plant's crown, quickly



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killing the plant.

- Best to remove entire leaf now.
- Be careful not to allow plant juices to spill on other leaves, spreading the disease.

The combination of cold water and lack of air movement contribute to this problem.

#### NEXT YEAR'S FLOWERS

Your greatest challenge is to rebloom your orchid on a new inflorescence (spike).

Most Phalaenopsis bloom once a year, but they can be manipulated to branch or regrow from the existing inflorescence.

There is a particular procedure to follow in order to initiate a new flower spike. The best time is in the late summer, early fall when the plant has finished its growth for the season.

Here's how:

- You must cool the night temperatures to 15 F less than the day temperatures, i.e., 80 F (26.7 C) during the day and 65 F (18 C) at night or similar.
- This may mean moving the plant each day/night to warm/cool locations.
- Continue this procedure for 10 days to two weeks.
- Then return the plant to its growing regular growing area. A new inflorescence (spike) will appear within a week or two depending on the plant.

If this does not work, repeat the process

and extend the time of treatment or drop the night temperature further (but not below 55 F [12.8 C]).

#### REPOTTING IN SPHAGNUM MOSS

- Repotting is recommended at least every two years.

• New roots developing above the potting medium and dead or dried roots and decaying potting media indicate the need for repotting.

- Plants are best repotted during active growth (new leaves and roots evident).

- Generally, never repot your plant when it is in flower or the heat of summer.

#### POTTING IN BARK AND BARK MIXES

Always premoisten your bark by soaking it overnight.

- Orchid mixes are ready to use, just premoisten.
- Once repotted, wait a week before watering to allow the damaged roots to heal.

Additives used in conjunction with bark are:

- Sponge rock aka very large perlite.
- Chunky peat moss.
- Perlite.
- Charcoal.