

GROWING MY ORCHIDS

DONNA BALLARD

I WORKED AS A professional interior house plant maintenance technician for many years. I learned to walk into any growing situation (home or office), assess the culture and plants I had to work with, then adjust accordingly. I was trained to work in a greenhouse back in the 1980s, so I figured I could use my knowledge from that experience to know what to do with my orchids. How wrong I was!

The first thing I learned to do as a professional maintenance technician was run through a checklist of things to analyze. The checklist included:

- Light
- Temperature
- Humidity
- Air conditioning
- Water
- Fertilizer
- Insects
- Pot Size
- Decorative exterior pot cover
- Type of Plant

With orchids, the checklist is slightly different, and in my mind less complicated:

- Genus and whether species or hybrid
- Light
- Humidity
- Temperature
- Water
- Fertilizer
- Insects
- Type and size of the pot

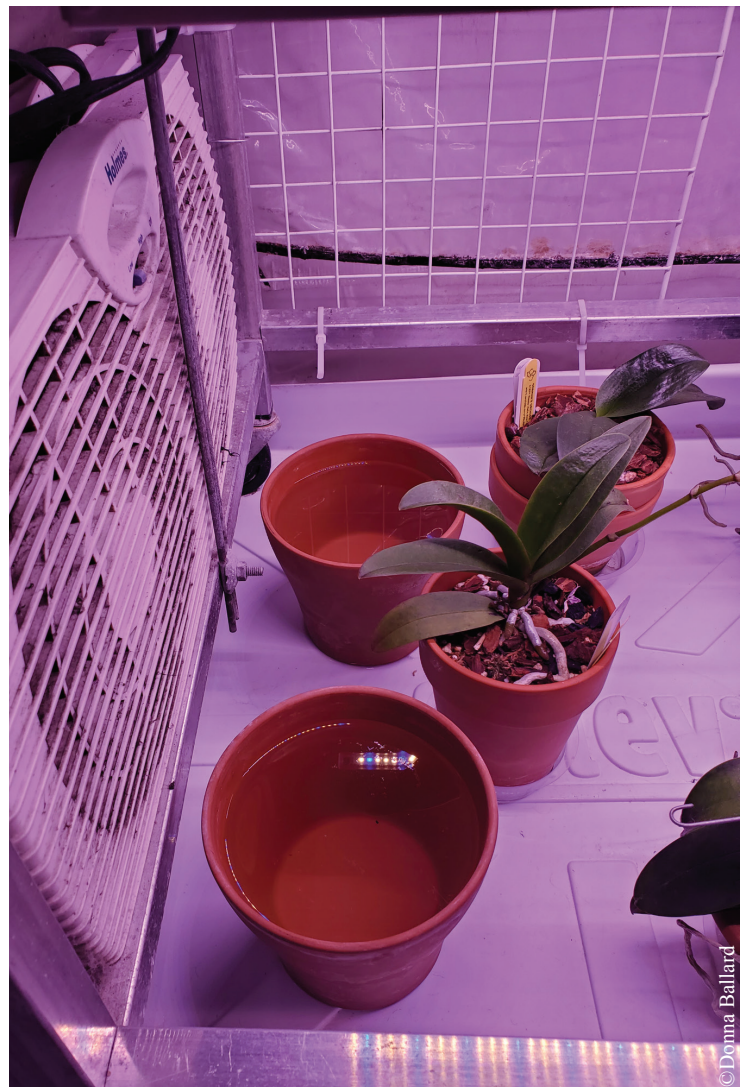
When I started down the orchid addiction path (and as many of my friends will attest, I am well and truly addicted), I had to learn to adapt to my past experiences. I was not always successful, but I have always tried to learn something from my failures.

I have five different growing areas. I first started growing orchids under LED lights in a unit specifically made for growing plants. The light cart unit is in my apartment in a west-facing window. I have added to my growing areas: 1) an indoor, very warm, and very bright eastern exposure window, 2) a cool and shady greenhouse, 3) a warm, bright greenhouse, and 4) an outdoor northern exposure patio in the San Fernando Valley area of Los Angeles that can get very hot in summer and very cold in winter.

When working as a technician, I asked myself: "Is the plant healthy looking?" If not, further investigation was required, and sometimes I had to move the plant in question to meet its needs.

With orchids, I had to first learn about the cultural needs of the plants I wanted to grow. After many expensive (much to my husband's chagrin) mistakes, I had to swallow my maintenance technician pride and learn to ask for help. I asked the grower who was selling the plant if it would grow on my light unit or would I have to put it in a different growing area. As you learn your different growing conditions (lol!), this becomes easier, and you won't have to ask so many questions unless it's an orchid whose culture is new to you.

But again, I had to understand my growing conditions so the vendor could steer me towards the right types of orchids for my growing conditions. I sat for hours watching the light in the window where my light unit was going to sit, so I could see the type of light, at what time it came in, and how it affected the temperature of the area.



Double window fans.



Humidity tray.



Orchids on the light cart unit.

Growing Indoors

As I learned to grow indoors, I found several important factors specific to orchids that need to be considered if you want to be successful.

The first is air movement. Orchids need very good air movement. If you do not have adequate air movement, the critters, such as spider mites, silver mites, and mealybugs, will quickly take over. I lost quite a few plants a few years back due to poor air movement. My fans now run 24/7/365 to prevent the critters from taking over. I use double window fans with variable speeds attached to the frame of the light cart using zip ties. I have them staggered so that the top shelf fans are pointed to the left, the second shelf fans point to the right, the third shelf fans point to the left, and the last shelf fans point to the right. This allows the air to circulate evenly around the whole unit, so there are no stagnant air pockets.

The second most important factor is humidity. Orchids love as much humidity as you can give them, and I have come across a great way to give my indoor babies just that. I went to a garden center and wandered around. When I came across red clay pots without holes in the bottom, it was light bulb time! It occurred to me they might just be the answer to my humidity dilemma. I took several home with me, filled them up with water, and spread them on one of my light unit shelves; they were small enough to fit under the orchid leaves. After a few weeks, I noticed a real improvement in the orchid's look and over-all health near the pots. I went back and bought ten more, including some larger ones to place directly in front of the fans.

I have many *Phalaenopsis violacea* hybrids that did not seem to do better with the added humidity, so I decided to try another tactic. I placed the phal pot inside a

taller red clay pot and then put that pot into a plastic pot liner filled with water. After a time, the clay pot wicked the water up and emptied the liner, so I refilled it. The phalaenopsis pot does not touch the water, so the roots are not in direct contact with the water and not in any danger of root rot. However, the clay pot is wicking up the water and radiating the moisture to the underside of the orchid's leaves. My *Phalaenopsis violacea* hybrids looked much happier within weeks, and they started spiking, which made me very happy indeed!

I have also been experimenting with a clay liner that is 14 inches long and eight inches wide. In the liner, I have many tiny clay pots turned upside down sitting in water. The tiny clay pots add surface area and radiate the moisture much faster than the other type of single clay pots, so I must fill it several times a day. The only drawback to this type of humidity radiation is that you must fill the reservoir every day and clean it about every 10 to 14 days to control the algae. I do not mind doing it if it will keep my babies happy. So far, so good.

Culture Information

Quarantining your plants when you first bring them home is particularly important, something I learned the hard way! I quarantine my plants in a separate area, entirely away from all my other plants. There are different recommendations regarding the length of time to quarantine. The recommendations include quarantining for three weeks, a month, and one expert recommends six weeks.

Once home with your new orchid, you should inspect it thoroughly. I look at every plant, really LOOK. I closely look at the plant's overall condition and then use a 20x loupe to inspect the leaves, the top (crown), the underside of leaves, the stem where many plants



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Rust mites.

put out the new growth, and the joint where the leaf attaches to the plant.

While you can't catch everything that your precious new orchid might be harboring, a close examination when you get them home can help you assess whether the plant is infested and needs to be treated. However, no matter how closely you examine the orchid, you can miss the signs of a pest infestation very easily! I should know. Even though I quarantine my plants, I missed seeing the teeny, tiny bush snails that love roots. As a result, and I had to treat all of my cattleyas with snail bait this year because my lovely new roots were suddenly black-tipped! A new rule of thumb for me, I will put snail and slug bait on all new plants because the little monsters hide during the heat of the day and come out at night.

Orchids attract a whole host of insects like ants, aphids, mealybugs, spider mites, silver and rust mites, thrips, and other pests like soft and hard scales; getting up close and personal is required to see them. Mealybugs, spider mites, silver and rust mites are particularly difficult to get rid of.

Hint: if you see ants, you probably have another problem living in your orchids that you cannot see. Ants are farmers and, if they like the conditions you have provided, they will bring in scale larvae, aphid eggs, or mealybug larvae and set up a colony nearby so they can attend their "crop."

Spider mites will colonize the underside of the plants' leaves. They leave stipple marks on the surface and delicate, silvery webs in the joints of the leaves that are relatively easy to see. But silver and rust mites are a whole different story. I have lost more orchids to silver and rust mites in the past two years, even after quarantining the plants, than I care to admit. They are microscopic, and you don't know you have a problem until it is too late! And the fan only spreads them, not inhibit them as it does with spider mites.

For almost all the pests I named above, I have a combination of things I use. Since I am very sensitive to most chemicals and their smells, I use a product made

specifically for smothering. It is a mineral oil solution spray. The one I use is a Horticultural All Season Oil Spray that is non-toxic, has no smell, and can be used near pets, people, and even food because it is organic. It comes in three forms, a concentrate, a ready-to-use spray in a hand-held bottle, or a bottle with a concentrate that can be hooked directly to the hose for larger applications. As a caveat here: you must follow the directions on the label as to what time of day you spray, or you can literally fry your plants. I always spray early in the morning to avoid the heat that can react with the oil.

I have recently discovered a product that has been out for quite some time. It is a micronized sulfur powder that has a great dual-action. It is a fungicide and an irritant to thrips and other pests and discourages



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Silver mites.



©Arthur Pinkers

Clowesetum Donna Ballard 'Green Dragon' AM/AOS
(*Clw.* Rebecca Northen × *Ctsm.* kleberianum)

them from feeding on the roots of your plants and laying eggs. I water with it every other week. There are other granular products on the market, like Spinosad, a substance made by a soil bacterium that attacks thrips and other nasties. Imidacloprid, a systemic chlorinated analog of nicotine, is used for scale and mealybug. It is safer than many insecticides; however, it should be handled cautiously as with any insecticide. It is toxic to honeybees, so I do not use it outside.

Do your orchids need to be fed? Just like people, orchids need food. There are many different types of fertilizers available. Those species that require a winter rest do not require feeding until growth starts in the spring.

A sign that house plants need to be fed is in the color of their leaves: sometimes with a dark streak of green down the center and fainter dark green streaks from the edges of the leaf to the midvein, with the rest of the leaf looking a sickly yellow-green. This is chlorosis, and one of the causes is nutrient deficiencies.

In cattleyas, you sometimes see some dark green and light green blotching. I have virus-tested plants with this blotching, and the test is always negative, so it could indicate a calcium deficiency. With cattleyas, I use a very weak form of calcium and magnesium, or diatomaceous earth (microscopic, freshwater shells), as a light top-dressing or as an additive to the potting mix. Another reason for blotchy-leaves is that it can also be due to heat or cold stress.

Most orchid growers will tell you that if your plant has lush, dark-green leaves and looks great but does not bloom, give it more light especially for cattleyas, dendrobiums, and cymbidiums. What they do not usually tell you that you have to do it in small increments, or you risk burning the leaves! Been there, burned that!

As my daddy always told me, if you are going to do something, do it right the first time! I am trying, not always successfully the first time but learning from my mistakes. Thanks, Dad!

Next issue, I will be back and share my experiences with my other growing areas!*

About the Author



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Donna has over 40 years of experience in interior house plants and has spent eight years specializing in orchids and has plants growing in different environments. She is an associate judge in the American Orchid Society judging system.