



## CLUB NEWS



Ron Kaufmann

### June Meeting

by Karen Ford

#### Welcome and Thanks.

President Tom Sullivan opened the meeting at 6:53 pm with 43 attendees. He recognized Charlie Bridgham for providing incredibly tasty homemade pear bread and pear pie using pears from a tree in his yard. Charlie also brought numerous pears to share with members. In addition,

Tom thanked Kim, Julie, Paul, Dottie, and Diane for bringing tasty treats and reminded members to “drop a dollar” to help defray the cost.

**Club Business** VP Linda Steward welcomed four guests and three new members: Liza Julad, Lynne Alfonsii, and Leasa Codner. Two attending members with July birthdays were given a raffle ticket by Linda, including Dottie, who was celebrating her July 12<sup>th</sup> birthday.

Tom reminded members that the virtual show table is rescheduled to Monday, July 17<sup>th</sup>, and that photos for August’s virtual show should be submitted by July 26<sup>th</sup>. He also noted that the next repotting clinic at the Southeast Branch Library will be held on August 5<sup>th</sup> from 10 am until noon. All are welcome to learn how to repot orchids, have them repotted by experts, or just observe and visit with club members. Tom announced that supplies for growing orchids are available for purchase from Cathy on the back table and that you can also request them by email at [info@staugorchidsociety.org](mailto:info@staugorchidsociety.org).

Howard, the SAOS librarian, was unable to attend tonight’s meeting, but he will return next month. There are many orchid books that can be found online at the SAOS library and are available to borrow for one month. If you send Howard an email, [hscushnir@gmail.com](mailto:hscushnir@gmail.com), he will bring the requested books to the next meeting.



**Show Table Review.** Courtney Hackney described the beautifully-grown orchids



on the Show Table. These included a violet and white multifloral Phalenopsis bellina hybrid; an Oncidium that was growing around a piece of cedar and filled with yellow flowers; a large Vanda that is often grown as a hedge in S. Florida; a “mystery Gongora” with hanging inflorescences; a Habenaria Tracey that was grown from tubers by Sue; a “clamshell” orchid famous for its upside-down lip; a Cattleya Allen Condo that was displaying its first bloom of beautiful deep purple flowers; and a Brassavola Crazyarchno grown with lots of Spanish moss.

Courtney then auctioned a Laelia anceps mounted on a large piece of wood with numerous plants and at least 6 huge inflorescences that will bloom with lavender-colored flowers and can tolerate temperatures down to 35°F. Nancy Losgar was the lucky winner of this plant with a bid of \$150.

**SAOS Program.** Courtney Hackney introduced Ron Kaufmann as a fellow marine biologist from San Diego California. He noted that Mr. Kaufmann is well-known for growing orchid species, especially those from Brazil and sold through AWZ orchids. Ron began his talk by sharing his opinion that the SAOS website is the best in the United States for providing cultural information on growing all types of orchids, and mentioned Sue Bottom’s valuable contributions.

He then noted that many novices ask him why their orchid is “dead”, when indeed their plant is clearly alive, and only the flowers have faded! He went on to describe many cultural myths that novices adhere to that will indeed eventually kill their plants. For example, he has been told

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## Upcoming Orchid Events

### July

- 17 SAOS Virtual Show Table, 7:00 pm  
Courtney Zooms into Cyberspace  
An Invitation Will be Sent by Email

### August

- 1 SAOS Meeting, 6:30 pm  
Hybridizing and Flasking  
Tony Millet, Hobbyist and AOS Judge
- 5 SAOS Repotting Clinic, 10 am til 1 pm  
Southeast Branch Library  
6670 US-1 N, 32086
- 8 JOS Meeting, How to Choose an Orchid  
Jim Roberts, Florida SunCoast Orchids
- 12 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave.
- 16 SAOS Virtual Show Table, 7:00 pm  
Courtney Zooms into Cyberspace  
An Invitation Will be Sent by Email

### September

- 2 SAOS Repotting Clinic, 10 am til 1 pm  
Southeast Branch Library  
6670 US-1 N, 32086
- 5 SAOS Meeting, 6:30 pm  
Schomburgkias  
Bret Ullery, Accent Orchids
- 9-10 Fall JOS Orchid Festival  
Mandarin Garden Club, Jax 32223
- 9 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave.
- 12 JOS Meeting, Trends in Vanda Breeding  
Robert Fuchs, RF Orchids
- 13 SAOS Virtual Show Table, 7:00 pm  
Courtney Zooms into Cyberspace  
An Invitation Will be Sent by Email
- 16-17 Ridge Orchid Society Show  
IFAS Stuart Center, Bartow
- 30-1 Tampa Orchid Club Expo  
Northdale recreation Center

### October

- 3 SAOS Meeting, Reblooming Orchids, 6:30  
Courtney Hackney
- 7 SAOS Repotting Clinic, 10 am til 1 pm  
Southeast Branch Library  
6670 US-1 N, 32086
- 11 JOS Meeting, Topic TBA  
Speaker TBA
- 11 SAOS Virtual Show Table, 7:00 pm  
Courtney Zooms into Cyberspace  
An Invitation Will be Sent by Email
- 14 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave
- 15 Keiki Club - Growing Area Tour, 1-3 pm  
Sherrie and Lester Jenkins' Home  
2150 Eventide Avenue, St. Johns 32259

## St. Augustine Orchid Society Organization

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Librarian	Howard Cushnir <a href="mailto:hscushnir@gmail.com">hscushnir@gmail.com</a>
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that orchids live in trees and don't need water, that orchids require watering twice a day, and that the quality of the water is unimportant! None of these are true.

Ron advised that it is important to water your plants early in the day during cold times of the year, but if the weather is forecast to be cold and damp at night, to not water at all. He shared that if you live in Southern California, with low humidity, you will probably want to water your plants later in the day so the roots can retain some moisture during the cooler nights.

An often-heard myth is to water your orchids with an ice cube made using dilute fertilizer. This is certainly not what any orchid would experience in nature, and is likely a bad idea. Another bad idea is to water the plant by misting only the flowers. However, you can soak orchids in a pan as long as you let them drain well afterwards. It is generally a good idea to water your plants until water runs out of the pot in order to not only flush excess salts but to flush fresh air into the pot!

Water quality is very location-dependent, and tap water may have too many dissolved minerals, that can lead to salt-crystal formation on roots. This is not good.

Regarding light, Ron noted that he has been told that all orchids grow well in full sun, in deep shade, and can be moved from shade to full sun. Though light requirements are very species-dependent, leaves grown in low light are typically broader, softer, and darker green, and these plants may not flower well. In addition, these plants may be more prone to disease due to their softer leaves. On the other hand, plants grown in too much light may develop yellow leaves, and if a plant is moved from low light to bright light too quickly, the leaves will often develop burn spots. Ron noted that light meters, cell phone apps, and even the clarity of shadows can be useful for determining light intensity, with *Phalaenopsis* plants doing well when shadow edges are blurred, while *Cattleyas* prefer bright light that produces crisp shadows.

Another myth that can result in dead plants is either not fertilizing, fertilizing all plants identically, or adding too much fertilizer in hopes of getting more flowers. Over- or under- fertilizing plants can cause a variety of symptoms ranging from leaf tip burn to blotching. Although more fertilizer can sometimes improve growth and flowering, the ideal amount is dependent on how frequently it is applied and other environmental conditions. It is also important to check fertilizers for the form of nitrogen they provide (a fertilizer that has most of its nitrogen in urea is not readily available for absorption); the pH of the solution they form (can be determined by checking run-out from the bottom

of the pot using aquarium pH strips) with most orchids preferring slightly acidic conditions; and the inclusion of necessary micronutrients.

Ron shared that not all orchids love hot weather, and that some are very susceptible to cold temperatures. He then showed a slide of *Cymbidium* orchids covered in ice, which can help them tolerate temperatures as low as 29°F, though this not recommended. Often orchids that experience cold-damage will develop fungal infections, so it is a good idea to treat these plants with a systemic fungicide. And, in general, if thermal stress is anticipated, it is best not to water the plants beforehand.

Most orchids need good air movement, and they should not be misted several times a day. A small fan can be useful to increase air circulation. If you are trying to increase humidity, you may want to place several orchids close together in a tray containing pebbles and water. This can allow the plants to create a high humidity microzone by both evaporation and transpiration.

Another way to kill your orchids is to plant them in different media and different pots, but water them all the same, or to use large pots for small plants. The potting medium and pot size needs to be tailored to your watering regime and type of orchid, and the pot should be as small as possible to accommodate the plant's roots. Using local knowledge is the best way to determine what works best in a given area, and there is plenty of local knowledge in the SAOS.

Finally, Ron noted that orchids do get pests, but it is important to use chemical pesticides judiciously, and both ants and thrips can serve as vectors for delivering pests. Ants can bring aphids. Thrips can rapidly destroy flowers and spread viruses. Symptoms of virus infections can be difficult to recognize, and though there are at least 80 different viruses that infect orchids, there are only readily-available tests for two types of orchid viruses. If you have a plant with viral infection, you will probably want to discard it before the virus spreads.

Ron summarized all his advice on growing orchids to think of temperature as a proxy for metabolism. When it is hot, plants need more water, nutrients, and better air movement. When it is cold, they require less of these.

**Meeting Conclusion.** The formal meeting concluded at 8:45pm and was followed by a raffle of plants donated by Bev Vycital and Deb Green. Thanks to the helpful hands that stayed to help clean and store the tables, chairs and room.



# CLUB NEWS



## August 1 Meeting Hybridizing and Flasking

Tony Millet, AOS Student Judge and Hobbyist, will be speaking on the benefits of hybridizing and growing from seed. There will be some show and tell involving plant pollinia, plants in pod, protocorm formation in flask and early potting out of flasks to growing blooming size plants.

Tony is an orchid grower and hybridizer who does his own flasking, replating, mericlone and other in-vitro work. He has been growing orchids for 30 years and hybridizing for 20 years. He really enjoys making hybrids using hard to find, rare or different color forms of species.

## July 17 Virtual Show Table

Courtney talks about the plants brought into the Show Table at our meetings. He also does a monthly online program focusing on the pictures of blooming orchids members send in. Courtney will Zoom into cyberspace at 7 pm to talk about the different orchid varieties with tips on how to grow them. An invitation will be sent to your email address. If you want to share images of your beauties in bloom for next month's program, send high res pictures by July 26th.

### American Orchid Society Corner

#### Webinars

July 11, 8:30 pm, Everyone Invited  
Greenhouse Chat - Ron McHatton

July 20, 8:30 pm, AOS Members Only  
Soft Leaved Orchids – Tim Culbertson

*Orchids Magazine this Month*  
Spotted Cattleyas – Fred Clarke  
Aussie Oddities – Tom Mirenda  
Fertilize Weakly Weekly? – Sue Bottom

[Photos of Latest AOS Awards](#)



# INSPIRATION

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*B/c Greenwich 'Elmhurst' AM /AOS*

© Terry Botta



# CULTIVATION

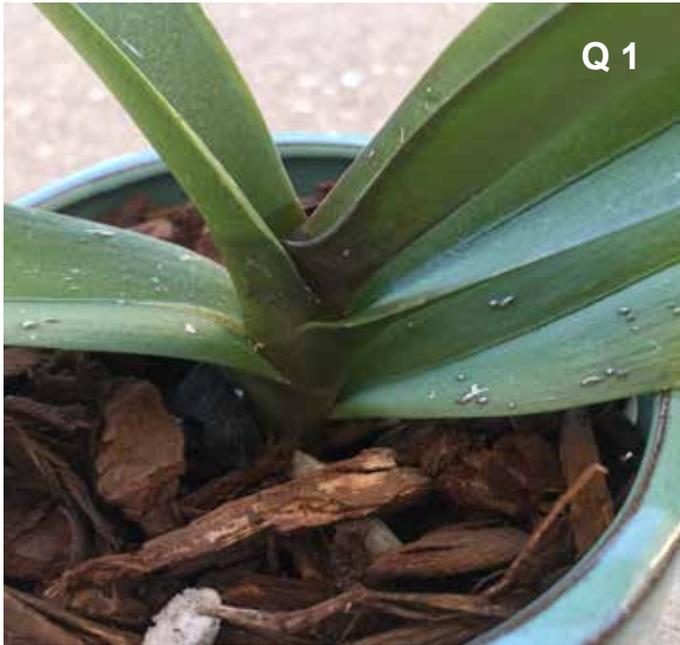


## Orchid Questions & Answers

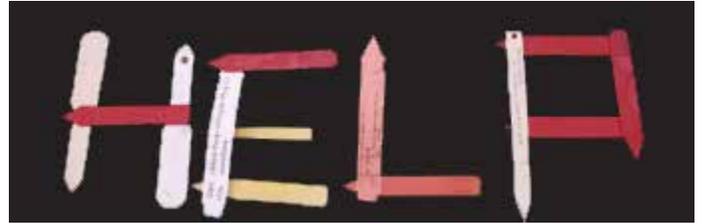
by Sue Bottom,  
sbottom15@hotmail.com

**Q1.** My plant app suggested scale was the problem on my phals. I tried to rub the bumps off with isopropyl alcohol on a Qtip, but they didn't come off. I had to scratch at them with my nail to get the bumps off,

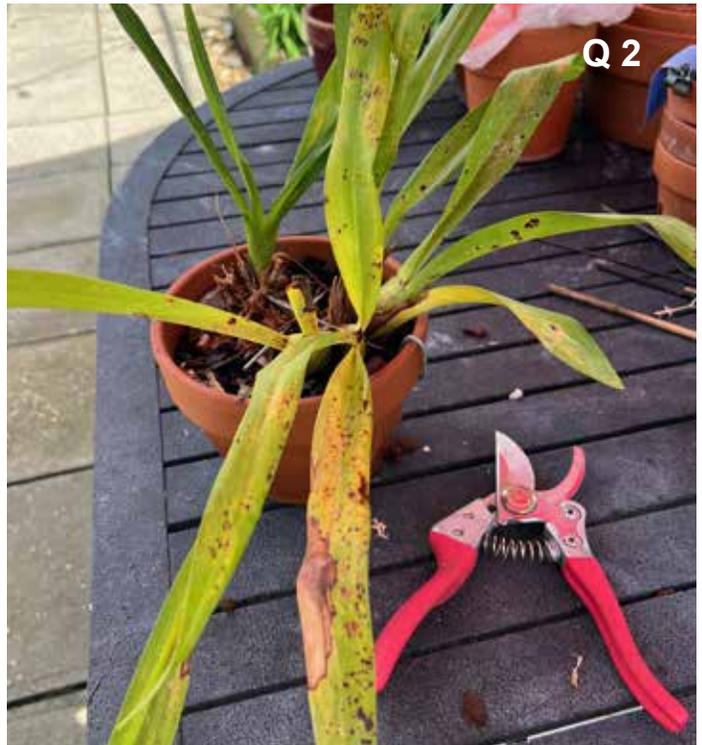
and then it seemed more like plant matter than bugs that came off. Then I came upon your website with an article about edema, is that what is on the leaves? There are spots of leaf splitting, could that be from underwatering? I also think I might have pushed the soil down too much when repotting.



**A1.** That is definitely edema, caused by watering too late in the day or on a gray day. Leave the plants be, they'll be fine. The leaf splitting probably happened because it was growing quickly and the tender young leaf split. It looks like you've got the plants potted in bark, which a lot of people use. I haven't been too successful with bark, I use the long fibered New Zealand sphagnum moss or a Pro-Mix perlite blend. The question I'd ask is what were the plants potted in before? The phal roots become acclimated to the substrate they are grown in, and if they were in sphagnum moss when they came to you, they will have to grow all new roots to transition to bark. If they were in bark before, then bark is probably a good choice for you.



**Q2.** This plant was in the flood and the freeze, as well as two hurricanes, and the tag has disappeared. I think it has either *Pseudocercospora* or *Guignardia*, but I don't know which. Could it be both? My plan is to spray it again with Physan 20. Think I should toss it?



**A2.** With everything that plant has been through, you won't know whether the fungal infection, whatever it is, is the primary cause of its decline or if the weakened plant was then more susceptible to disease pathogens. You can spray it, but sprays are generally protective, rather than curative. Very few fungicides will clear an infection, they simply protect the other parts of the plant from infection. If it were my plant and I wanted to keep it, I would cut away all the diseased tissue. It seems that the other end of the plant is much healthier. Cut away the disease, and then you can spray the remains. You won't have much left, maybe a single growth or two, so put it into a small pot with some high quality sphagnum moss til the plant gets healthy again. And if that's too much, toss it and get something that will give you pleasure when you look at it.



# CULTIVATION



## Slugs and Snails by Dr. Courtney Hackney

Warmth and humidity have finally arrived, ideal conditions for most orchids and their pests: slugs and snails. They tend to do their feeding at night along with roaches, which are a greater problem than most growers realize.

Slugs are hard to eliminate once they colonize a greenhouse. Just because you grow indoors under lights does not mean that you are not susceptible to slug damage. The biggest problem with slugs is that they are not noticed until they consume a favorite orchid bud just before it opens. If one looks carefully and knows what to look for, their telltale slime trail will be evident each morning, especially after a rainy, warm night. There are a variety of treatments for this pest ranging from stale beer in a saucer, good for small collections, to toxic sprays and close doors if you have children or pets that can access your plants. The stale beer standby is your best bet. You may also want to look over your orchids; especially the pots after the lights have been off for a couple of hours. Slugs do not bite or harm you so they can be picked up, but they are slimy.



infestation. There is a new product on the market that has worked well for some growers called Slug-go or Escar-go. The active ingredient is Iron Phosphate that interferes with the slugs' digestive system.

If the number of plants in your collection is small it can be easier to repot plants being sure to remove all potting medium from the roots and using new pots and medium. If you are growing inside, it is a good idea to clean any other surfaces in your growing area, such as trays and gravel, as eggs and small slugs hide in tiny places. This approach will also eliminate bush snails, an even worse pest.

Bush snails are tiny, an eighth inch or so long, but there may be dozens of them. They typically graze on algae, but also love newly emerging roots. They can eventually kill orchids if the infestation prevents new root growth. Some species of roaches also graze on new roots as well and it is often difficult to tell which of the two pests is doing the damage.

Frogs and toads eat large numbers of roaches and can be placed into large greenhouses. These natural predators will not be satisfactory if you are an indoor grower, as they tend to wander away from the orchids and find their way into many areas of the house where they are not appreciated, such as in your shoes. There are no satisfactory predators of slugs.

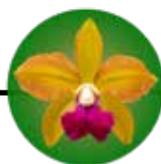


*Small bush snails can be a problem. You can try the home remedy of top dressing pots with coffee grounds.*

Baits, especially those with metaldehyde work well. The poison is usually absorbed into large sawdust-size plant material or pressed into little pellets that are spread around the top of the pot. It also comes in liquid form. Metaldehyde can damage plants so check the label and use products that have 2% metaldehyde. Do not place on leaves or roots. The product degrades quickly and will need to be applied every two weeks or so if there is a particularly bad



*Note: Dr. Courtney Hackney wrote a monthly column of his orchid growing tips for about 20 years; we are reprinting some you might have missed, this one from July 2003.*



# CULTIVATION

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## Cattleyas for Beginners 2

by Ned Nash, courtesy of American Orchid Society

Basically, the more variables under your control, the easier you will find the culture of cattleyas. It is much easier to shade than to provide extra light. It is much easier to add humidity than to subtract it. It is generally easier to cool than to heat. And so on. What our goal will be in the first section of this installment will be to render “easy” some of the most frequently misunderstood aspects of Cattleya culture.

**Potting.** Probably the most difficult things to learn in successful Cattleya culture are when and how to pot. This segment may sound a little complicated but never fear. Once the few basic components are understood, the potting of cattleyas will never be any more than a minor chore.

For a start, the best advice is not to leave your entire Cattleya collection for potting on the same weekend. Instead, pot a few as needed each weekend (or whenever is convenient). If done over a period of time, not only will the drudgery be reduced but you will be that much more likely to catch each plant just when it needs potting, not when you happen to get around to it.

Potting your cattleyas at the right time is important because these plants generally come from tropical areas, where they are subjected to seasonal climatic variation of some kind, whether temperature, rainfall or otherwise. These seasonal variations affect the growth and rooting behavior of the plants. In other words, most cattleyas - hybrids or species - go through a cycle of growth, rooting, flowering and rest (not necessarily in that order). Many of the problems experienced by beginners that they associate with potting can be traced directly to having potted when the plant was not rooting. Most cattleyas, if potted while actively rooting or immediately before, will continue to grow and flower with very little set back. Yes, I mean they should flower the year they are potted.

The “classic” advice is to pot either when you can see new growth or just after flowering. The latter is very good advice, especially for cut-flower growers because many of the Cattleya labiata types do, indeed, root right after flowering and before new growth is initiated. The former advice is good only insofar as you are at least sure that the plant has initiated new growth and, you hope, will root at some stage of that new growth’s development, albeit at some sacrifice to the unrooted back portion of the plant. One of the biggest drawbacks to this method is that it is all too easy to snap off the brittle new growth when tamping in the potting mix.

Overall, the very best advice is to observe your plants and pot just as new roots emerge. Next time you pot that particular plant, you will remember that last time you potted it just as the growth reached half maturity (for example) and began rooting at that stage of growth, so you will pot it just before it is expected to be rooting. This will prevent damaging the tender emerging root tips. Root tips, just emerging from the base of the developing pseudobulb, if broken, will not branch, thereby depriving that growth of any chance of developing a root system. If the roots reach an inch or so and are broken, they will branch, as will longer roots. Because of this, I recommend that if you have waited too long and the roots are between 1/2 and 1 inch long, it is better to delay potting until the roots are long enough to branch.

Summer-flowering hybrids and species provide a bit of a problem here. Because they tend to make up their growths quickly and flower immediately, they often are rooting while in bud. Depending on the particular type, you either can pot with the growth half matured and spur root development or you can pot when the plant is rooting and knock the buds off. Sometimes you must sacrifice flowers for the ultimate survival of the plant. We will be going into this group of cattleyas more in the next section on the more “difficult” types. With this type, if you don’t use good observational skills, the plant more often than not will just pine away, never making any roots or new growths.

The next most common problem beginners have with potting their cattleyas is improper orientation of the plant in the pot. Because of their epiphytic, climbing growth habit, most cattleyas tend to have what is known as a “stairstep” growth. That is, each successive growth develops a little higher than the one preceding it, like a stairway. In placing the front pseudobulb level with the surface of the mix and upright, the beginner is really only exacerbating the problem. First, as the new growth develops from the front bulb, it is not immediately in contact with the mix. The emerging roots do not grow right into the pot. Instead, they are exposed to possible physical damage or damage by insects, snails, slugs, etc. Also, it is easy to see how with the “stairstep” habit, the plant quickly will “climb” right out of the pot.

The proper way to pot cattleyas at first seems a bit unnatural. The rhizome must be level with the surface of the mix. When potted this way, the pseudobulbs will lean forward toward the front growth and not look “right.” But, behold, when the new growth begins to develop under the proper light conditions, it is oriented straight up. If you are bothered by the leaning of the back bulbs, it is a simple matter to tie them up into a more “natural” position.

Here, I also must remind the beginner that the back of

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the plant should be against the rim of the pot or nearly so and the front lead should be toward the center, with enough growing room for two years' growth. Do not overpot. Plants should have only enough room for two years' growth. If the plants are placed in an overly large pot, the excess mix will remain wet and deteriorate quickly, taking the rest of the mix with it.

The potting mix should be tamped uniformly firm, not hard, so that the plant does not wobble, which can result in damage to the root tips. A uniform firmness also is necessary to prevent the formation of channels through the mix that will keep the desired even moisture content from being achieved.

**Watering.** "Mystery desiccation," where the leaves are limp and wrinkled, can have several causes. This desiccation is a symptom and not a disease. In the same way that a runny nose can signal anything from allergies to the flu to a pepper "overdose," so desiccation can mean a variety of things. Basically, desiccation is a lack of water. It can be caused by underwatering, but this is probably the least common cause.

One note of caution here: you may be watering your plant often enough and still underwatering. Say what?! Yes, if the potting mix has been allowed to dry completely, it simply will not accept water, much like peat moss. If this is the case - and it will be obvious by the light weight of the pot - place the pot in a bucket of water and allow it to soak until wet, then resume regular watering. Alternately, water the plant well then water again an hour later and again an hour after that until the mix is re-wet.

More commonly, it is not that the plant is not being provided with enough water but that the plant simply cannot utilize the water because it has no roots. Once you have determined that your plant has no roots, the next step is to observe the plant and try to discern why. Has the potting medium broken down through age or overwatering? If you can push your thumb more than an inch into the mix, it has broken down. Repotting is indicated here. If the plant is freshly potted, maybe you potted it at the wrong time or it simply has not rooted yet. Keep the plant moderately dry at the roots and in a shadier, more moist atmosphere until root action is observed.

**The Five \*Toos\*.** The most frustrating part of any orchid growing is when all the hints, caveats, etc. have been followed and the plant(s) just won't flower. To make things "easy," the five "toos" can be used:

- 1 - Too little quality light - The most common reason any orchid doesn't flower.
- 2 - Too high night temperatures - Flowering of most commonly grown cattleyas is inhibited by night temperatures

higher than 75°F for any length of time.

3 - Too many hours of light - Longer hours of poor-quality light will not atone for the quality. Cattleyas never need more than 14 hours a day.

4 - Too little day/night temperature differential - Ideally, it should be between 20°F and 25°F.

5 - Too much nitrogen - The lushest plants don't necessarily produce the most flowers (if any at all), so don't overfeed.

Taken as a whole, these instructions are not really all that complex. This is the message that needs to be gotten across: cattleyas as a group are not difficult to grow if a few of their basic characteristics are taken into consideration.

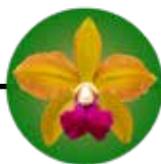
*Extracted from an article that appeared in the American Orchid Society Orchids magazine in June 1988 (Vol.57:6, pp.584-592).*



*This cattleya plant (left) clearly in need of repotting poses a challenge for the beginning grower. First, the plant must be removed from its pot as gently as possible. The plant is large enough to be divided and the plastic pot tag indicates the best place (right).*



*The plant has been divided into two plants (left). It is placed in its new pot, taking care not to damage the roots. Potting mix is filled in firmly around the roots and the identifying label is inserted. You now have a healthy division (right).*

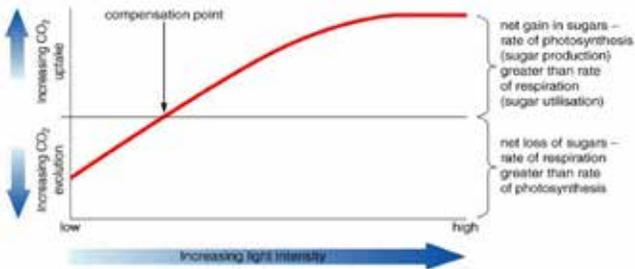


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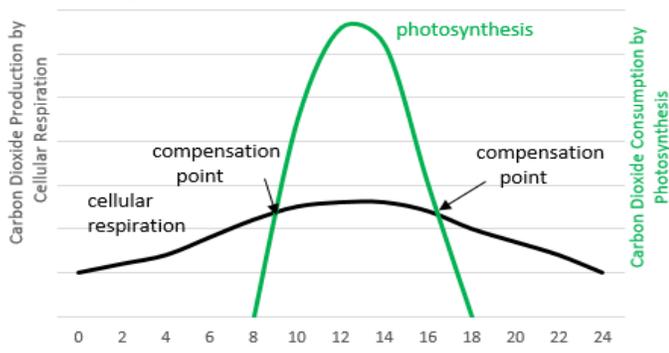
## Fun Facts about Light

by Sue Bottom

Photosynthesis is the process that drives the growth of plants. Carbon dioxide is absorbed from the air and chloroplasts absorb sunlight. The energy from light is changed into chemical energy by converting carbon dioxide into sugars, releasing oxygen back into the air. These sugars can then be used in the respiration process in which sugars react with oxygen to fuel plant growth and maintenance processes. When sugars are produced by photosynthesis in excess of what is needed for growth and respiration, they can be stored as starch for future use.

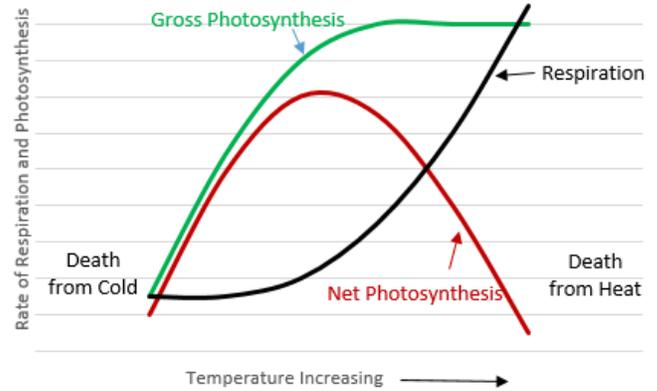


The compensation point is the amount of light required for a plant to produce enough energy through photosynthesis to cover the amount of energy required to grow and maintain cellular function through respiration. If there is not enough light, the plant will be stunted and not grow well. This sometimes happens to indoor plants that are grown under low light levels.

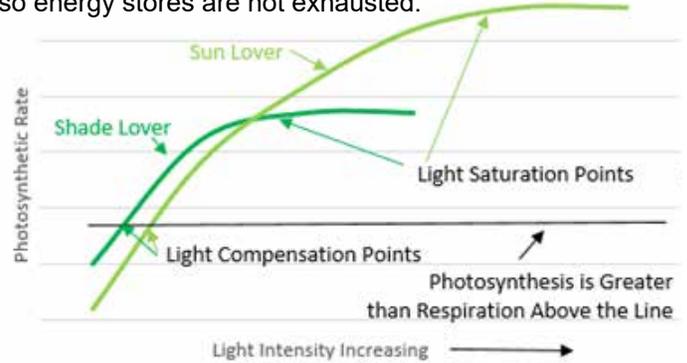


Photosynthesis occurs during daylight hours, while respiration occurs around the clock, during periods of light and periods of darkness. For plants to store up enough energy to bloom, the total amount of energy produced by photosynthesis has to be greater than the total amount of energy consumed by respiration.

Photosynthesis and respiration are both temperature dependent, and both processes initially increase in rate as the temperature increases. At a certain temperature, the photosynthesis rate becomes capacity limited and will increase no further while the respiration rate has no similar temperature limitation. This is one of the difficulties



in growing plants in the heat of the summer. Additional shading added in the summer keeps the plants cooler, so they don't burn all the sugar that is produced, leaving some in reserve for flower production. This chart also illustrates why plants enjoy a drop in nighttime temperature. The lower nighttime temperature reduces the respiration rate so energy stores are not exhausted.



Each plant has a maximum light saturation point, the maximum amount of light that it can absorb and convert into chemical energy. If it is exposed to higher levels of light, it will absorb the energy of the light without being able to process it, so the internal leaf temperature will increase to potentially unsafe levels, possibly becoming sunburned.

Many orchid books give recommendations for maximum light levels in foot-candles, a measure of light visible to the human eye. A more meaningful measurement to plants is the light intensity of photosynthetically active radiation (PAR). The Photosynthetic Photon Flux Density (PPFD) value is measured in the barely comprehensible units of micromoles per square meter per second ( $\mu\text{mol}/\text{m}^2/\text{sec}$ ). For sunlight, you can estimate the PAR by dividing the amount of light measured in foot-candles by 5. If the orchid books recommend 3,000 foot-candles for your cattleyas, it is comparable to PPFD value of  $600 \mu\text{mol}/\text{m}^2/\text{sec}$ . Artificial lighting has different conversion factors depending on its light spectrum. More and more you see lighting recommendations based on the PAR value. We might as well get used to it!

(First chart source [artofbonsai.com](https://www.artofbonsai.com), link: <https://www.artofbonsai.org/the-importance-of-light-intensity-in-photosynthesis/>)



# CULTIVATION

## Summer in South Florida

by Andy Easton, reprinted with permission

These are a few things, in no particular order, that you might wish to consider that could help your plants through what is often a very difficult growing season in South Florida.



*Phalaenopsis Kuntrarti Rarashati growing in a basket where the rainwater can drain easily away from the crown of the plant.*

It's hot and the plants are growing like crazy so we need to fertilize more, right? Wrong! The two periods of most rapid growth in our area are Spring and Fall. When the days and nights get uncomfortably hot for us, they are too hot for many of our orchids too. The respiration rate will exceed the photosynthate storage rate for much of the 24 hour period and consequently, just like when we go on a diet and exercise more to lose weight, our plants will actually struggle to hold their own or may even go backwards. In the months of July, August and September, it is prudent to actually feed at a lower concentration and also to make sure you are feeding a formulation that is at least even concentrations of Nitrogen and Potassium and preferably with a Potassium level around 25% higher than Nitrogen. Don't skip feeds however as the higher temperatures mean that fertilizer is quickly metabolized by media microflora. Now if you just grow Vandaceous types these comments are less applicable but anything in the Cattleya Alliance will benefit from the above regime.

Be sure too that you water and fertilize in the early or late hours, I personally prefer morning but the orchid leaf stomata are open at either time. It is not necessary to

get into a debate about foliar feeding here but I am sure the elevated bacterial leaf presence in warmer months greatly assists in plant nutrition by converting fertilizer into gaseous ammonia which is then readily taken up through the leaf stomata. Research has shown that Phalaenopsis stomata are open at night but be careful watering them in the evening as crown rot will be a problem. People say to me that if Phalaenopsis can survive in their natural environment where it rains every day in Summer and often in the evening, why can't they behave the same in cultivation? There are two main reasons why we run into problems with cultivated plants. Firstly, the plant orientation is all wrong. Phalaenopsis in nature develop so that the leaves drain water away from the crown. We place them in pots and all the water essentially runs backwards and accumulates in the crown, just where we don't want it at nighttime. Secondly, rainwater is a different "cat" to well or city water with added fertilizer and it is much less likely to support pathogen growth.

Plant disease researchers have found that elevated levels of certain nutritional elements like Magnesium will contribute to a plant's ability to resist fungal and bacterial infection. Epsom Salts (Magnesium Sulfate) is a cheap and effective source of this critical plant nutritional element. Once a month in Summer, instead of watering and feeding, water and feed Epsom Salts. It doesn't mix well with fertilizers so should be used on its own and even if you don't have the capacity to liquid feed it, you can even apply it as a topdressing without any risk of injury to your plants. Feed at the rate of a level teaspoon per gallon or top-dress at the rate of a level teaspoon per six inch pot.



*A secondary benefit of spraying Summer Oil on your plants is it will help remove hard water marks on your leaves.*

**Continued on page 12**



# ORCHID ADVENTURES

Continued from page 11



*Adequate spacing between plants and good air movement are basic precautions to prevent bacterial and fungal problems.*

There are oils and oils. Some people have done major damage to their plants by using the wrong oil at the wrong time of day or year! But, the paraffinic oils like Ultra-Fine which can be purchased for around \$11.00 a quart at Home Depot are wonderful for home growers. I spray all my plants in the greenhouse at home with Ultra-Fine every month, year round. You have no toxicity issues to worry about so you can spray in your swimsuit if you wish and these paraffinic oils will really keep mites, scale, thrips and mealy bug on the back foot. If your water is high in Calcium, they will also help keep your plant leaves shiny. I tend to spray in the early hours because it is more pleasant for me but even if the sun is higher in the sky, only the thinnest leaves and most sensitive plants would be likely to be affected, if at all. Caution: with any spray it is always better in terms of efficacy and for systemic uptake, to spray when the stomata are open, i.e. in the cooler hours.

Although summer is not the most pleasant time to be in your greenhouse, make some time each week to do a slow walkthrough. For people who hand water this is not a problem but if you have overhead watering capacity, don't just water and run!

Things can go bad very quickly in the summer months and a small spot of bacterial infection can become a sorry mess in hours rather than days. Spacing plants and a good fan for night air movement is critical to the prevention of most fungal and bacterial problems. Never let your plant roots come within 18 inches of the soil. The ubiquitous *Fusarium* wilt fungus is just waiting to attack your prize orchid and it is essentially, incurable. Just a splash of water which hits the soil under your bench and then bounces up onto a healthy *Vanda* root can spell disaster. Whenever I see people placing plants on the ground for easy watering, I just shudder. It is one of the most dangerous and unhygienic practices for your orchid plants.

Good growing! Make it through summer and be ready for the pleasures of the Florida Fall with a group of robust and healthy orchids.

*Note: Andy has been a professional orchid grower and hybridizer since 1973, operating New Horizon Orchids and specializing in cymbidiums, odontoglossums and a few cattleyas. He moved his New Horizon Orchids operation to Colomborquideas in Colombia in 2018. This article appeared in the South Florida Orchid Society Newsletter, May 1, 2009*



# SHOW TABLE



**Grower Suzanne Susko**  
*Taeniophyllum obtusum*



**Grower Steve Dorsey**  
*Mps. Breathless 'Florence'*



**Grower Sue Bottom**  
*Bulb. plumatum*



**Grower Leslie Brickell**  
*Macroclinium manabinum*



**Grower Gale Hall**  
*Prra. LeBeau Blue*



**Grower Walter Muller**  
*L. (now C.) Pacavia*



**Grower Roberta Hicks**  
*Blc. Keowee 'Mendenhall' AM/AOS*



# SHOW TABLE



**Grower Courtney Hackney**  
*C. Ivy's Blue Eyes #3'*



**Grower Leslie Brickell**  
*Bulb. A-doribil Candy Ann*



**Grower Sue Bottom**  
*C. gaskelliana var. coerulea*



**Grower Allen Black**  
*Bc. Mary Dodson*



**Grower Suzanne Susko**  
*Tolu. Popoki 'Mitzi'*



**Grower Steve Dorsey**  
*Phal. NOID*

Link to all Submissions: <https://flic.kr/s/aHBqjALd3J>

