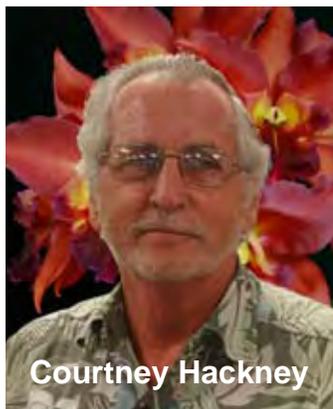




CLUB NEWS



Courtney Hackney

September 6 Monthly SAOS Meeting

by Lola Stark,
seacuter@bellsouth.net

Welcome and Thanks. President Jack Higgins opened the meeting at 7:15 pm with 47 people present. Jack thanked Jeanette Smith, and Barbara Conrad for the refreshments

and reminded those present to "Drop a Dollar" to help pay for the refreshments. Gail Marshall told us that all members were well and reminded those present that all birthday folks should pick up an extra raffle ticket from Christie Peppard. Jack reminded everyone to vote for their favorite on the show table. Dick will announce the winner at the break between the program and the raffle.

Club Business. We do not currently have a librarian and if we cannot find anyone to take the post, the executive board will make a decision about what to do with the books we have, possibly selling some of them as part of a silent auction, others to be donated to the County libraries and the Garden Club library.

Steve Anderson has agreed to write the Who's Who column for the newsletter. Thanks Steve!

We have potting supplies available at the side table; coarse mix, coco mix and sphagnum mix for \$5.00 a bag. SAOS will be at Hagan Ace on October 1 from 9 am until 1 pm to help with any problems you have or to just chat!

The Keiki club will be meeting at Sue and Terry's house on September 18 from 1 to 3. The program will be about fall preparations and getting your orchids ready for winter.

The program next month will have Linda Wilhelm as speaker and the subject will be "How to kill your orchids". Sounds like fun.

President Jack announced that the nominating commit-

tee for next year consists of Bill Gourley, Jim Taylor and Terry Bottom. The announcement of nominees will be in October, elections in November and installation will take place at our December Auction.

The club will be putting up a display at the Gainesville Orchid Society show in October. The set up is on the 14th and the show will be the 15th and 16th. We need orchids, of course, and would also be very grateful to have anyone with a van to volunteer to help us take and bring back our setup and orchids. Please get in touch with show chair Harry McElroy if you and your van are available either on Friday and/or on Sunday.

Orchid Events. Check the calendar of events in the newsletter or on the website to learn of the orchid shows this month.



Program. Our program for the evening featured Dr. Courtney Hackney where we got to "Ask the Professor". Courtney has grown orchids for many years and writes a column for our monthly newsletter. The program was terrific and very educational for new growers and old. He started out by explaining that he is a lazy grower who plants in lava rock because he hates to transplant and lava rock doesn't break down. He had magnificent examples.

Should you transplant if the roots are coming out of the pot? Not if the plant is growing well! He showed us a cattleya that had been growing in the same pot for about 7 years, had roots at least a yard long and blooming quite satisfactorily with about 8 blooms. There were old pseudobulbs in the pot turning dark and he suggested that sometime in the future he'll probably cut them out! He also showed us a pot

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CLUB NEWS



Upcoming Orchid Events

September

- 10 JOS Meeting, 7 pm
Prem Subrahmanyam, FI Native Orchids
- 18 Keiki Club for Orchid Beginners
Fall Preparations: Preparing for Winter
Sue and Terry Bottom's Home
6916 Cypress Lake Ct. St. Aug 32086
- 17-18 Ridge Orchid Society Show
Lake Mirror Center, Lakeland

October

- 1 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
- 1-2 South Florida Orchid Society Show
Bank United Center – University of Miami
Coral Gables
- 1-2 Florida West Coast Orchid Society Show
Minnreg Hall
- 4 SAOS Meeting, 7 pm
Linda Wilhelm, Woodland Orchids
How to Kill Your Orchids
- 8-9 Fort Pierce Orchid Society Show
St. Lucie County Shrine Club
- 11 JOS Meeting, 7 pm
Ruben Sauleda, Ruben in Orchids
- 15-16 Gainesville Orchid Society Show
Kanapaha Botanical Gardens
- 21-23 Orchttoberfest at Powerplant/EFG Orchids
Deland
- 28-30 Delray Beach Orchid Society Show
Old School Square

November

- 5 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic

- 8 SAOS Meeting, 7 pm
Marv Ragan, MAJ Orchids
OrchidWiz Encyclopedia
- 15 JOS Meeting, 7 pm
TBA



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CLUB NEWS

Continued from page 1



Nice selection of 'Silent Auction' plants.

with sunburn on it. As long as the leaves stay green, don't disturb them. If you want to get new leads going on back bulbs without repotting, cut the old pseudobulbs apart right in the pot, allowing the plant to sprout new growth from the a blind eye while still in the same pot.

When he buys orchids, he looks for plants that have small spaces between the pseudobulbs. He first looks for the most advanced plant, and then might take one that has wider leaves. Wide leaves might indicate the plant is a tetraploid. The plant he picks will have actively growing roots, this way he can repot into his mix of choice with the least amount of transplant shock to the plant.

The best time to repot is when an orchid is just begin to throw off new roots. This is especially critical for bifoliate cattleyas because they send out new roots only once a year. Do not try to transplant a bifoliate that does not have active root growth. It will not survive. If you buy a plant during the winter, do not replant it until spring.

No matter where you try to grow your plants, they will probably acclimate to your growing conditions. A little more shade than the plant requires will be okay. All orchids need lots of light and some need more than others and will probably take longer to come into bloom if they do not have enough.

Courtney explained the difference between orchid roots and roots on other plants. The epiphytic orchids have developed a special coating on the outside of the roots because they often grow epiphytically and the roots are no surrounded by any water retentive media. In their normal

Thanks to Watson Realty and Jeanette Smith for the use of their meeting space at 3505 US 1 South



state, they prevent the loss of moisture from the plants out of the roots. Once they are exposed to water, the surface of the orchid root changes and will readily absorb moisture and nutrients. So he advocates watering the plants, waiting about 10 minutes and then watering with fertilizer. This gives the plants time to begin changing the substance of the coating and allows them to absorb more water. This is why, with vandas, you're supposed to water until you see the roots change color!

He fertilizes heavily between March 15 and September 15 and then allows the plants to slow growth during the winter. He does not recommend using fertilizers with the ammonia form of nitrogen during the summer if you are growing in a bark or sphagnum mix that has organic matter. The ammonia nitrogen will feed bacteria and hasten the breakdown of your potting mix. He also avoids fertilizer containing the urea form of nitrogen because it takes a microbial population and time to convert the urea into the nitrate form of nitrogen plants can absorb. He recommends using fish emulsion at 1/32 of a teaspoon per gallon.

The orchids need to have calcium and magnesium added to them as the fertilizer usually does not include these necessary elements. He uses lime on all his orchids.

When you buy a new orchid, look to see what it's growing in. Plants do not like having their medium changed and will probably lose all their roots if you change it to a different potting mix. So try cutting off all the roots, put the plant in a clay pot until it begins to put out new roots and then plant it in the medium of your choice. If you're using sphagnum, Courtney suggests packing it tight, though others will say just pack it.

Buds will blast if you change their environment, even if it a case of a change of temperature. Plants coming from Hawaii may be in a cold environment aboard planes and may very well blast when you get them home. Leaves that curl probably need water and sheaths that don't develop probably need more light.

If anyone has other questions, Courtney will be glad to help!

Meeting Conclusion. Following an intermission, Fred and Christie gave us a great raffle, and six silent auction orchids were sold to the highest bidder. The winner of the Member's Choice from the Show Table was Sue Bottom with C. Rabeiana.



CLUB NEWS



September 18 Meeting for Orchid Beginners Keiki Club - Fall Preparations

We'll review fall orchid care and how to prepare your plants for their winter home along with the minimum temperatures to which your orchids should be exposed. We'll also talk about some of the less common orchids requiring special winter care, including the pendulous dendrobiums and catasetum relatives. We're meeting at Sue and Terry Bottom's home at [6916 Cypress Lake Court in St. Aug](#) on Sunday afternoon from 1 to 3 pm. Bring a folding chair. Call 797-4360 with any questions.



Linda Wilhelm at the 2011 Redlands Orchid Festival

October 4 Monthly SAOS Meeting

Linda Wilhelm, How to Kill Your Orchids

The Orchid Frau Linda Wilhelm will instruct us on the fine points of "How to Kill Your Orchids" at the October 4 meeting. She will pass on to us some of the basic as well as more advanced methods to accomplish this purpose. Linda is an accredited AOS judge who operates Woodland Orchids in Charlotte with husband Rolf. They specialize in breeding warmth tolerant oncidinae and compact cattleyas as well as line breed a number of different species including stanhopeas.

SAOS members can preorder plants from [Woodland Orchids](#) through Sue Bottom so only one list is sent to Linda. Please visit www.woodlandorchids.com to see what is available. The internet quantity discount will be given based on the total order quantity for the SAOS group. Pick up your plants at the meeting and pay Linda then.



Art Russell

Son of the Orchid Man

Although not obvious, it's really only since moving to Jacksonville that I've had much luck with orchids. Previously, this would have been obvious from the trail of dead orchids that has followed me for the past 35+ years. Look for the dead orchids and nearby you would have found me killing them with kindness, er, paying too much attention to them, er, well, you get the picture.

Actually, it should have been different - much different. I am the son of the Orchid Man. You see, I come by my love of orchids naturally. I grew up with them. My father started growing them when I was two years old, and except for 3 years in Germany during the late '60s, we've always had at least a few around.

It was after our return from Germany and our settling in Fort Walton Beach, Florida, that my father became known as "the Orchid Man," or at least that was how he was titled in the local paper. After we'd been there a few years and my father retired, he acquired the reputation as being the choice of last resort if you wanted to save a dying orchid in Fort Walton Beach. The orchid is dying or dead? No problem, give it to my dad; he'll save it.

Fast forward past retirement, graduate school, and a fortunate move to Jacksonville, and surprise upon surprise, I am the Orchid Man's Son; and I Can grow orchids. At present I have about 100 under the trees at home on Fleming Island, south of Orange Park, Florida. Winter remains a challenge as I perform the "orchid dance" to get them appropriately watered and given enough sunshine during the cooler months. However, with the first blossoms of spring, I'm amply reminded that it's worth every bit of effort.

I'm currently a member of the Jacksonville Orchid Society and a fixture taking pictures of the winning orchids on our show table.



INSPIRATION



Photography By:
Art Russell



CULTIVATION



GROWING TIPS for September

By: Courtney T. Hackney
Email:
Hackneau@comcast.net

For many years, the only water available to me for my orchids was too salty and getting even worse from salt water intrusion into the aquifer. A concrete cistern was constructed to collect and hold rainwater. Rainwater contains almost no dissolved solids, so you can imagine my surprise when an analysis of my water showed high levels of dissolved solids. Concrete cisterns are made of lime and some of that is lost to the water through leaching. Fortunately, other than making the water basic and leaving a white film on leaves, there was never a problem using this water. My orchids thrived with this calcium laden rainwater. After 4 or 5 years, water from the cistern was just slightly higher in solids than rainwater.

I often recommend keeping a log book indicating when various pesticides were sprayed, fertilizers used, etc. This is important in diagnosing the cause of problems that arise from time to time. An orchid growing friend had been using some of the bench in my greenhouse when I installed the cistern and was amazed at the incredible growth of his paphs under my care. After obtaining a few paphs of my own and studying the natural habitat it was clear why paphs had grown so well. It was the extra calcium and magnesium leaching from my cistern. To compensate for the slow change in water as my cistern reached equilibrium, I began adding dolomite lime to pots containing paphs and they thrived. I also began using Peters Cal Mag, which provided even more calcium and magnesium each time fertilizer was applied. My cattleyas and other orchids grew well under these conditions, except in the summer when I would experience new growths that rotted. I would also lose seed pods from rot.

Every orchid hobbyist knows that moving to a new greenhouse requires a reexamination of culture, and my move to Florida four years ago has been no exception. The one big surprise was an issue that had occurred before, always in the summer, that was never resolved to my satisfaction. During very warm summers there would be the occasional rotting of new growths on cattleyas as well as on new leaves of phalaenopsis. Most surprising was that the issue occurred on both species and hybrids that should have been fine under high heat and temperatures based on their countries of origin. On these occasions, various anti-bacterial and anti-fungal agents were used.

Based on the premise that most horticultural issues are caused by culture, various attempts were made including altering fertilizers, increasing air movements, etc, with no real clear success. The problem typically disappeared once temperatures cooled in fall. Most frustrating was the loss of countless seed pods of some potentially great hybrids. They would begin rotting from the tip and the rot would eventually progress, destroying the seed pod.

I have finally discovered as the cause of this problem, blossom-end rot; the same malady that causes tomatoes to rot from the old bloom tip, which is low calcium and magnesium. Orchids are "cold-blooded" and when it gets warm they are capable of growing at a very fast rate. To do this, they must take up nutrients at an accelerated rate, too. Calcium and magnesium are required for proper cell development in new leaves and other tissues, e.g. seed pods. That was what was missing from my culture during the heat of summer.

During summer's high temperatures, many orchid hobbyists report loss of new leaves especially when growing outdoors. Heavy rains flush nutrients, especially calcium and magnesium, from media, and at the same time, high temperatures and humidity foster very rapid growth. It did not occur to me to increase the calcium and magnesium content of the water



I am now using since it comes from a limestone aquifer and is loaded with minerals, including calcium. My fertilizer now is fish emulsion instead of the cal-mag fertilizer I have used in the past. Essentially, I am now providing more of the essential growth nutrients, mainly nitrogen, but not enough calcium for my orchids in this high growth time of the year.

When I first realized what was causing the increased loss of new growths and seed pods, I hand spread dolomite limestone powder all over the plants in the greenhouse. My orchids looked like it had snowed. I also placed a couple of pounds in the reservoir from which my Dosatron draws water after I have applied fertilizer. Within a week, there ceased to be an issue of rots despite the highest summer temperatures of the year.

Even some of what I consider intermediate temperature orchids have responded to the extra calcium and magnesium by growing extremely well in the heat. Most orchid growing advice suggests acidifying water. Adding dolomite raises pH, but has not had any negative effects so far. I still flush regularly and fertilize with fish emulsion and this keeps the pH of the medium at the right level for growth.



CULTIVATION

Your Orchids in September

based on Robert Scully, Ned Nash & James Rose checklists, courtesy of the AOS



General Growing Tips. The welcome transition to fall is upon us. You can expect the emergence of buds on many orchids from the cattleyas, evergreen dendrobiums and vandas to cycnoches, catasetums and miltonias. Select the ideal spot for the plant and place pendulous bloomers atop an inverted pot. Support the inflorescence as it emerges and open the sheath to prevent the accumulation of moisture around the developing buds. Consider switching to a dilute bloom booster fertilizer to prepare winter dormant orchids for their rest period. If you switched to nighttime watering during the summer, it is time to resume morning watering so the leaves will be dry by evening. Resume morning watering once nighttime temperatures drop below 70F.

Cattleyas. Despite the shortening days and lowering angle of the sun, this can still be one of the hottest months. Water and fertilizer must be in balance with heat and light. You will notice that plants are beginning to slow down a bit. Check plants for potting needs for the last time. Any in dire need should be repotted as there is just enough of the growing season left for plants to establish before the days get short and cold. The spectacular, multiflowered *C. bowringiana* should be in sheath. Observe the puffy sheath structures often, they may need to be opened at the tip to encourage evaporation of condensation that forms around the buds. *C. labiata* and its hybrids will begin to flower this month along with the spectacular and fragrant forms of the species *C. percivaliana*.

Cymbidiums. Through diligent breeding programs, the cymbidium season gets stretched longer and longer. *Cym. ensifolium* hybrids will bloom first with the winter blooming standard sized hybrids soon to follow. Stake inflorescences and move plants to a shadier location to help the flowers develop.

Dendrobiums. This is the season for the phalaenopsis and canaliculatum type dendrobiums. The long, arching sprays of flat dark red-purple to white or pink saucer-like blossoms provide weeks of satisfaction. Fertilize with low nitrogen fertilizer for the best flowers. *Nobile*-type hybrids should continue to be maintained on a nitrogen free fertilizer program. You can start to gradually reduce watering frequency on the winter dormant dendrobiums.

Oncidiums. Of the three popular pansy orchids *Miltonia xbluntii*, *roezlii* and *spectabilis*, the latter is probably the most showy. The reddish purple flowers of *Milt. spectabilis* var. *moreliana* usually appear singly and last for weeks.

Paphiopedilums. Standard green-leaved paphiopedilums began to show their bloom sheaths this month. Late season heat waves can blast these early sheaths, so provide proper cooling and air circulation.

Phalaenopsis. The bulk of this season's growth is being ripened this month. Begin to watch watering more carefully and reduce feeding proportionately with reduced watering needs. *Phal. hieroglyphica* flowers reliably in the autumn. Its fragrant pale yellow flowers are distinctively marked with well defined brown lines on the sepals and petals. *Phal. equestris* and *Phal. lindenii* may also show their best now, the former may be everblooming through spring and the later will arouse curiosity with its attractively striped lip.

Vandas. This is the principal blooming season for *Euanthe sanderiana* (syn. *V. sanderiana*) and the foundation for large flowered modern vandaceous hybrids. Position plants so the inflorescences will grow out of the leaves toward the light. Help uncooperative types by placing a thin bamboo stick between the emerging inflorescence and the flattened form of the leaves, thereby forcing the raceme outward.

Other Genera: Catasetum Relatives. Autumn is typically the end of the growing season for the catasetum relatives. Plants may produce flowers from pseudobulbs with leaves, or in some instances, from bulbs that have already lost their leaves. Watch the undersides of the leaves to control spider mites which seem to find these delicacies just as the foliage reaches its prime or plants are about to bloom. Support the basal racemes of catasetums as they emerge and consider placing the pots on inverted pots to provide room for them to hang freely.



CULTIVATION



Orchid Questions & Answers

by Sue Bottom,
sbottom15@bellsouth.net

Q. I was planning to repot my cattleya that has 2 new leads forming with fresh roots peeking out. This morning the new leads are black, is this the heat?

A. You might think this is a bacterial or fungal rot, but more likely it is a calcium deficiency similar to blossom end rot in tomatoes. It affects cattleyas primarily generally during periods of rapid growth in the



spring and summer. Insufficient calcium can stunt new root and vegetative growth, create black spots on leaf tips that progress toward the leaf base sometimes preceded by a yellow halo. The lack of sufficient calcium can deform and eventually kill new leads. Use a good cal mag fertilizer, add calcium nitrate at the rate of 1 teaspoon per gallon to your water (alternating with Epsom salts) or top dress with

powdered dolomite as a source of calcium and magnesium during the hot months when calcium requirements are high.

Q. The common advice about new catasetum growth is to withhold water until the new roots are several inches long. This is to prevent water from rotting the new growth. At what point is it OK (if ever) to get the foliage wet and perhaps have water enter



the center growth point? Will that create a rot situation? My catasetums are quite mature and have exuded a lot of nectar which is now nurturing black sooty mold.

A. Once the whorl of leaves has unfurled and the growth is mature, you do not have to worry about water standing in the crown and rotting the growth. Fred Clarke adds: Just wipe off the mold with warm water. Check for mites and thrips too because sometimes they have an exude that will mold and looks similar. Once the first roots that start with the first growth are 3-5" long begin watering. If a second growth starts later in the season do your best to keep water out of the center of that newest growth but don't stop watering as the newer roots are in good working order and the first bulb still needs to mature and bloom.



Q. I have an orchid that looks like there is an orchid growing on one stalk with leaves growing and thin greenish stalks from the bottom. Should I cut this off?



Q. One of my orchids has a baby. When do you know when to replant it?



A. Those phalaenopsis are Fertile Myrtles, determined to have babies! Once the roots are 2 or 3 inches long, you can separate the keiki (the baby) from the mother stem and pot it up. For those with shorter roots, get a small 2 or 3"



CULTIVATION



pot and put sphagnum moss in it and then situate the keiki into the pot and hold it in place with a wire, like half a paper clip, to secure the stem into the sphagnum. If that won't work, you can clump some sphagnum moss around the keiki and hold that in place with a piece of nylon stocking and let the roots grow into the sphagnum moss (also called air layering)

Q. My phalaenopsis grew a keiki and once the roots looked healthy I cut it off with sterile scissors and planted it in an orchid bark mix and watered it. I was told that transplanting is stressful so the plant should be placed in a shadier spot for a week. It has been about a week and I am concerned about the keiki. The leaves are now limp and one of them even looks slightly wrinkled even though the potting mix is bone dry. What's wrong?



A. Fresh bark is often very hydrophobic, which means it repels water, so it is often recommended that you soak the bark before using it to hydrate it as well as remove the fines. The keiki is used to getting nourishment from the mother plant and now it is on its own in a bone dry mix, so it is a little dehydrated. Why don't you try watering it every other day or so until the bark feels like it is not so dessicated and the leaves plump up. Once the bark and plant get rehydrated, you can resume your normal watering schedule.

Q. I couldn't find my disease on your website. The greyish color is not on the surface of the leaves, it seems to be within the leaf. There is no indication of insects.



A. The culprit appears to be mites. The dendrobium has the characteristic silver stippling on the undersides of the leaves. You can get a magnifying glass and look for these small, eight legged arachnids. For a household remedy, get a quart spray bottle, put in 2 tablespoons of dishwashing soap, fill with water and spray the leaves top and bottom weekly for 2 or 3 weeks. Some other homemade remedies: <http://www.firsttrays.com/remedies.htm>. For a bigger infestation, you can also apply a good miticide like Kelthane, Talstar and Avid.

Ace Repotting Plant Clinic



The first Saturday of the month
from March through November,
SAOS members are available to talk with you,
answer questions and help you repot orchids.

Ace Hardware, 3050 US 1 South, St. Aug,
9 am until 1 pm.



HOME & BACKYARD



Going Green - House

By: Josh Jones
jajones@comcast.net

Most new orchid growers are focused on the culture and preservation of their freshly acquired loved ones. We have all been there, starting our collection with great anticipation and desire, making sure that the orchids receive the perfect amount of light, water and are planted in the best media possible. Some of us still are. It is not until we enthusiastically outgrow the space allotted, whether it is inside the house, porch or window shelf, that greenhouses are brought to the table.

Some of us cringe when we hear the sound of constructing a greenhouse. Some think that it's too hard, too expensive, or the upkeep is too much to handle. Buying a greenhouse kit makes it a little easier, but takes out a lot of the custom work. In Florida, we do not necessarily need a fully enclosed greenhouse, but a shade house that we can winterize for the colder temperatures.

Unless you live on a good amount of land that is not governed by a homeowners association (HOA), there are rules that you have to follow. You should always check with your HOA as well as your local building codes to ensure that you do not break any laws or upset your neighbor. Many HOA's require you to have some kind of plans as to what type of structure that you will be building and where it will be placed on the property. Also, they might want to know what kind of material will be used to build the structure. In my case, I had to lower the structure about a foot. Most materials will be either metal, which will not rot and last many years, or wood, which will be cheaper and easier to fasten together.

BREAKING GROUND



After you have checked with your local building codes and received approval from your HOA, if necessary, you'll be able to break ground for the wonderful sanctuary to grow all your plants in. There are many materials that you can use for the 'flooring' of the greenhouse. Aggregate or pavers are the usual types of flooring for any greenhouse. Before one would go about putting down the flooring, you will want to prep the site.

First, to get rid of any vegetation, you will want to rent or borrow a tiller and till up all vegetation in the specified spot where the greenhouse will sit. Tilling will make removing vegetation, i.e. grass or weeds, easier to remove. I would recommend going at least three feet outside of the actual area where the greenhouse will be placed to ensure that no vegetation will grow into the structure itself. After tilling the ground and removing the vegetation, you need to level out the ground as best a possible.



Once you have leveled out the ground to your satisfaction, you will want to install some weed cloth to ensure that no vegetation, that you just painstakingly removed, will grow back. Weed cloth typically comes in different colors and grades. The main thing you will want to do is choose a cloth that will give you the most protection. Typical weed cloth will come in 5-30 year increments and can be purchased at your local big box stores. After you have the weed cloth all pinned into place, and have decided on the type of flooring you'd like, it is time to call and place the order.

For most of the aggregates and pavers that one might use for the flooring of their greenhouse, it is best to call a business that specializes in that particular product. I would not recommend going with the big box stores. They are typically overpriced and do not deliver like the specialty stores do. There are difference types of aggregate that you can choose for the flooring also. I decided to go with #98 lime stone for my floor material which is 1/2"-1". Lime stone can be bought in different sizes from fine to coarse. You don't want to use the fine lime stone unless you plan to put

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down pavers as your flooring material. If this is the case, a contractor or handyman is recommended due to certain issues with leveling and spacing.

CHOOSING A FRAME



A metal structure will last longer and a wood structure will cost less. You can even use PVC as a frame. Whichever material you plan to use, there are different kind of frames to construct. From rigid frames to loop houses. Make sure that you pick the right kind of frame that will fit your needs. The most popular frame type and the type that I decided to go with is the rigid frame.

The rigid-frame structure has vertical sidewalls and rafters for a clear-span construction. There are no columns or trusses to support the roof. Metal gussets connect the sidewall supports to the rafters to make one rigid frame. The conventional gable roof and sidewalls allow maximum interior space and air circulation. A decent foundation is required to support the lateral load on the sidewalls.

I had acquired a metal carport frame a few years ago, so I decided to use it as my structure to save on cost (I did not pay anything for it). It was, for the most part, a perfect fit for what I had wanted. There were some things that I engineered to make everything fit better and with no cutting.



Since the frame was not as rigid as I would have like it to be, I made some more modifications to it by taking some self tapping screws and adding some horizontal pieces to the legs of the structure itself. To go a step further you can install more horizontal braces to the underside of the roof. Not only will this make the structure more rigid, but will create space to hang mounts, pots, or other items such as irrigation from. Once the frame of the greenhouse structure is completed, we need to decide what the sides and roof will consist of.

WALLS AND ROOF



I have been blessed to visit a few greenhouses in Florida and picked the brains of the owners as well. Most of the places I have visited have used some type of hard walls for the sides of their structure. As others that I have seen before, I decided to go with ribbed metal lathe. Ribbed metal lathe is available at any stucco supply company. Typically, it is used for installing stucco on the ceiling. The ribs on the lathe make it a lot more rigid and sturdy compared to the other metal lathe that you will find in the big box stores for

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installing stucco on walls. Also, the openness of the lathe allows the breeze to move through the greenhouse compared to solid walls.

For the roof of the greenhouse we first installed aluminum that is formed like a U. This U-channel was available from a greenhouse supply store down south around Orlando, FL. I used self tapping screws to attach the U-channel to the metal poles of the structure. After installing the U-channel, I then draped my UV treat poly cloth over the structure and then fastened into place by inserting wiggle wire into the U-channel that is specifically made for that product. Having the poly cloth, which is just a thick, ultraviolet treated plastic, on the roof allows for any afternoon rain storm from dumping any water on your plants. This allows a strict schedule for water by an irrigation supply or by hand. Once you're roof is on, you will want to install some kind of shade cloth. I decided to go with a 50% aluminet shade cloth so it will reflect some sunlight and help preserve my poly plastic that I used for the roof. The good thing about the channel that we installed to fasten everything together



is that you can install a couple of wiggle wires into each channel.

By now, you are probably thinking about what to do come winter. All we will have to do is install some more plastic over the metal lathe and to the front and rear of the greenhouse via the channel that has already been installed. There are many ways to heat the greenhouse also. One way to heat is by an electric or gas heater. Another is by using some irrigation on the underside of the benches running at night so the constant 72-74 degree water will warm up the ambient temperature inside the greenhouse.

WATER AND ELECTRIC

Having water and electric is a necessity for a greenhouse. Most of the time running both of these is a lot easier when done before laying the aggregate or flooring.



This way you can run all the pipes and not have to disturb whichever flooring you decide to use. It is not necessary to have a complete irrigation on a timer, but it does help. You can always hand water your plants. As for electricity, I recommend going with a contractor that specializes in that field. Nothing is worse than getting a jolt of 220 volts through your body and can be quite damaging even deathly if done incorrectly.

BENCHES

Setting up the inside of the greenhouse is one of the many important things. With limited space, layout of the plants is going to be key. Some use multi-tiered racks while others use single wide racks. As the frame of the house, you can go with metal or wood. There is also the opportunity of going with pre fabricated racks instead of building your own. By building your own racks you have the chance of making small changes to make more of a custom fit. Be creative! I installed a sink in my greenhouse to make potting easier and to wash up after spending many hours in the greenhouse.



In closing, while building a greenhouse is fun and very exciting, many tools are used in building this dream house for the 'chids. Always wear protective gear so that you keep all of your body parts. Make sure you call before you do any digging so electrical and phone lines are not disturbed. Have a plan and stick to it. If there are any doubts in the plan, fix it up front and then go on about building.



SHOW TABLE



Grower Dick Roth
Ascda. Pralor



Grower Courtney Hackney
Peristeria elata



Grower Mike & Kaycee Heinz
Christensonian vietnamica



Grower Sue Bottom
Enc. ciliare



Grower Courtney Hackney
Blc. Cherry Suisse



Grower Mike & Kaycee Heinz
Bulb. phalaenopsis



Grower Joshua Jones
Den. Enobi Purple 'Splash'



SHOW TABLE



Grower Courtney Hackney
Blc. Murray Spencer 'Amroy's Dark Star' FCC/AOS



Grower Sue Bottom
C. Rabeiana



Grower Marv & Jan Ragan
Prn. Firebird 'MAJ' HCC/AOS



Grower Sue Bottom
C. bowringiana 'Guatemala'



Grower Courtney Hackney
Blc. Grezaffi's Blue 'Joe'



Grower Courtney Hackney
Blc. Everything Nice 'Showtime' HCC/AOS

