The Plumeria Society of America, Inc.
May 2013

Plumeria Potpourri

Next Meeting: Tuesday, May 14, 2013, 7:30 p.m.
Houston Garden Center in Hermann Park
1500 Hermann Drive, Houston, Texas
Anyone with an interest in plumerias is invited to attend

Come to the May meeting!

You'll find out the best time, way, and method
to successfully trim your plumeria trees and root the cuttings!

In this issue ...

President's Corner

by Mark Wright, Texas
email: **wright5447@sbcglobal.net**

I thought spring was here in Texas. Easter has passed, the pecan trees here have buds, San Jacinto Day is upon us as is another late season cold snap. My red blooming plumeria will not be happy.

Our booth at The Houston Home and Garden Show was a success thanks to all the volunteers who worked there educating more people on the joys of growing plumeria.

Following the May PSA meeting, our growers' meeting will be held, and table assignments will be made for our first plant sale of the year. Seabrook-Clear Lake is always our first sale, and almost always our biggest one.

I don't have dates for any yard tours at this time, but check our Facebook page for future announcements. The PSA Facebook Group is in the final stages of implementation. We should launch soon. If you "like" our page, you should see announcements about the group.

We have lost many key volunteers in the last year due to various reasons. I have been delighted by all the new people that have stepped up and given their time. Help at the sales is always needed, so don't be shy—volunteer.

The Garden Center in Hermann Park will soon no longer be our meeting place. As part of an "improvement" to the park, our Houston Federation of Garden Clubs building will be demolished and a new facility constructed. Starting with the October 2013 meeting, and for all of 2014, our meetings will be held in the Club House. This is the building across the street from the zoo—the golf course "club house."

See you at the May meeting!

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PSA Sales for 2013

by German Collazos, Texas

The first plant sale for 2013 is June 8th in Seabrook, Texas, followed by the sale at the Fort Bend County Fairgrounds on July 20th. Please note the key dates summarized below. The growers' meetings will be held after the general meetings in order to allow time for people to arrive. Below is a timeline of important dates for our 2013 sales. Please contact me with any questions at **(713) 670-4064** or **german.collazos@tic.toshiba.com**.

Seabrook (Clear Lake) Sale—June 8		Fort Bend County Fairgrounds Sale—July 20	
May 7	Commitment to sell on June 8	July 2	Commitment to sell on July 20
May 14	Sellers' meeting (after general meeting)	July 9	Sellers' meeting (after general meeting)
May 29	List of plumerias to be sold on June 8th	July 10	List of plumerias to be sold July 20th
June 8	Sale in Seabrook	July 20	Sale at Ft. Bend County Fairgrounds

Luc Vannoorbeeck

by Emerson Willis, Texas

For nineteen years Nancy and I have been motor homing to the Florida Keys in the wintertime. We got off to a late start in December because of a problem with my back. My sweet wife blames it on too many years of lugging banana boxes filled with plumeria cuttings, and also dragging her to The Sunshine State against her will (she becomes homesick after a day and a half).

For many of those years we camped in Homestead at the base of The Keys, both going and coming, visiting Luc and Carol at their Florida Colors Nursery. Disneyworld can't even propel a person forty miles an hour down a very narrow path on a golf cart while your head is being whacked with plumeria branches. Luc always knew when to duck.

Because we were tardy this season, we bypassed our usual first stop and went on up U.S.-1 fifty-five miles to our campsite in Marathon in the Middle Keys.

On January 29, 2013 we drove to Florida Colors to visit with Luc and Carol and their new associates, our friends, Tex and Kay Norwood.

Dinner that evening at a local steakhouse was wonderful. Luc with his vast knowledge of plumerias topped with his great sense of humor set the tone. Even in an agricultural town like Homestead, I think some of the people around us thought we might be a little crazy. I'm not sure they were totally wrong.

In my life I have made mistakes, of course. Every once in a great while I do something correctly. I had the waiter snap a picture of us. Fifteen days later the world lost Luc Vannoorbeeck.

Design and Performance of Humidity Boxes

by George Hadjigeorge, Texas

Rooting plumeria cuttings can be difficult at times. The main problem in rooting plumeria cuttings is rotting, which mostly starts at the pith (the center soft white core). In a previous article, I showed that if the cuttings are callused well prior to planting, they do not rot. I originally callused cuttings by burying their ends in moist mulch, as shown in the picture below left. This method works

great and it forms some very nice calluses in just a few weeks (picture below). However, it

needs heat and works best during the growing season. I still use this method for large cuttings that I cannot put into a humidity box.

The problem with the mulch method is that it is very difficult to explain what the proper moisture level of the mulch should be. It should be moist but not wet. If the mulch is too wet, some cuttings rot. It takes experience to judge the moisture level of the mulch correctly. We really need a foolproof method to callus cuttings, where we eliminate all the guesswork.

Another method I tried was to place 2" of moist mulch in a water bottle (with mouth cut out), with 2" of pea gravel over the mulch, then insert

the cutting, and fill the rest of the bottle with pea gravel. I then sealed the top with duct tape and set it in the shade. The daytime heat evaporates moisture from the mulch, keeping the cutting end in high humidity but dry. Multiple cuttings can also be gang-callused together in bigger plastic containers. Nice calluses form in just two weeks (picture below). The problem with this method is that if

one uses too much mulch or mulch that is too wet, some of the cuttings in the bottle may get wet and may sometimes rot.

Mark Terrill of Texas has used Saran™ wrap over the cut end to maintain high humidity I use a rubber band to make the seal airtight. The moisture comes from the cutting itself. The picture below on

the left shows the cutting after one week. The bottom is bulging out due to the growing callus. Nice calluses form in just two to three weeks. The problem with this method is that it does not always work. Sometimes, the cuttings get wet and rot.

Another method used is to coat the cut end with liquid electrical tape (LET) or

beeswax. Both work the same way as with the Saran™ wrap by trapping moisture at the cut end. These have the same problem as Saran™ wrap and sometimes the cutting gets too wet and rots.

Also, when one removes the LET or beeswax, sometimes the skin of the callus gets peeled off (picture to the left). When this happens we have to start over.

All the callusing methods need high humidity to work well. High humidity is the key variable. Is it possible to callus cuttings in

humid air with no medium? Two cuttings from the same tree were sealed in small plastic bags as shown in the picture to the right. One was placed in the shade in full light. About three quarters of the second cutting was buried in moist mulch (picture to the right). Both bags developed condensation from moisture that evaporated from the cuttings themselves. After two weeks, they both developed a very nice callus; one could not tell them apart (picture to the left). The callus formed was of comparable quality as when the cuttings were callused in mulch. Light does not seem to have any effect. Thus, it should be possible to callus cuttings in open humid air in a humidity box.

My first humidity box consisted of a simple clear plastic box. I placed two inches of moist mulch in the bottom and put some ¾" PVC pipe pieces over the mulch to keep the cuttings off the mulch. I then placed the cuttings on the PVC pipe, closed the lid, and placed the box in the shade.

In just two weeks, a very nice callus was formed (left picture below). Not only was there no shriveling of the cutting at all but the cutting was putting out new leaves (right picture below). This

was done in August so there was some nice heat to generate moisture in the box.

The only problem with this was that the box was too small; it could not fit many cuttings. I made a bigger humidity box out of a 56-quart plastic box (left picture). In buying the box, I made sure the lid sealed tightly on the box frame. The next picture shows this humidity box operating (outside in the shade). It generated very high humidity inside by using ambient heat. It did not leak much moisture, and I did not have to add additional water for a long time. Adding bottom heat is not recommended because a lot of moisture would have condensed on the top lid and made the cuttings wet. With just natural heat the cuttings stayed dry. If cuttings get wet, it means there is too much moisture in the tub. Just put less moist mulch in the tub to solve the problem. In cold months I used as little as 1" of mulch in the bottom of the tub.

In September of 2012, I went to Greece for three weeks. Before I left, I filled the box with cuttings that I had purchased for experiments. When I came back, they all were callused nicely and were ready to plant (picture to the right). Also, the cuttings did not shrivel.

Using water or wet soil in the bottom of the tub does not work as well as mulch. The amount of moisture in the box is important and should be adjusted depending on average ambient temperature. If the cuttings in the box get wet, it means there is too much moisture in the box. Reduce the amount of mulch in the box until cuttings remain dry. Use less mulch in cooler weather.

This is by far the simplest and most foolproof method to callus cuttings from April till October. The cuttings callus nicely in two weeks and nothing generally goes wrong with it. There is no chance the cuttings could rot because they are always dry; you need wetness to get rotting. In addition, there are no pathogens in the air to attack the pith of the cutting. As a result, you can callus cuttings without treating or coating the cut end with anything. However, I prefer to coat the bottom with powdered sulfur, because the sulfur crust offers protection against scratching from things in the soil (pumice, wood pieces, stones, etc). The sulfur crust is permeable to moisture and does not inhibit callusing. This is my preferred method for callusing during the growing season.

Last fall, I developed a heated humidity box to callus cuttings in cold weather. This box underwent many design changes. The picture below shows the latest design. The box is constructed from redwood and treated wood. The three sides have ¾" thick foam insulation and are covered with 4-mil greenhouse plastic film. The outside is insulated with a blanket. The top and front are covered with 20-mil clear polished PVC film, which is optically clear to be able to see inside. The front opens to put cuttings inside. The box sits on four wheels so it could be easily rolled around.

The box size is 25" wide by 14" deep by 36" tall. The bottom 4" is filled with mulch for insulation

(upper left picture). A powerful 90 watt-heating mat with a steel frame is put in the bottom to provide dry heat (upper right picture). A wood frame supports the heating mat's metal frame. A thermostat is used to control the heating mat and control the temperature inside the box. The control thermocouple for the heating mat is suspended from the roof (about 4" from the top of the roof). The top is slanted in all directions to direct condensation to the walls and avoid wetting the cuttings below (picture below).

A plastic water tub is set on ¾" thick foam insulation and placed on the heating mat steel frame (the bottom is 1" above the heating mat). In the original design, moisture was supplied to the box by wetting the mulch in the bottom and by placing a stainless steel pot filled with water on the heating mat metal frame. This passive system worked quite well, and the box operated at about 96–98% relative humidity.

An idea (to use an aquarium heater to heat the water) by Dewaine Callahan of California was adapted in this design. A 300-watt titanium aquarium heater was placed in the bottom of a plastic water tank. The control thermocouple was placed in the water but as far away from the heater as possible. The water heater has its own thermostat. Thus, the box temperature and the water temperature can be controlled independently.

A problem was encountered in the plastic box design (described later). The aquarium titanium heater generates a hot spot right above the heater and damages the cuttings above it. For this reason, I had to modify the design to protect the cuttings by adding a heat guard below the cuttings. A good heat shield is an air gap. I placed a corrugated clear PVC panel, with the channels going along the width of the box, over the wood blanks. I left about 1" of space around for the air to circulate in the box. I then placed a second PVC corrugated panel, with the channels going along the length of the box. This way, an air space was created between the

two PVC panels. The cuttings sit on the ridges of the top corrugated PVC panel and any water that might drip on the cuttings falls quickly into the lower channels. This offers added protection to keep the cuttings dry. There were no problems with the heat damaging the cuttings after this modification was made.

This humidity box design is the most flexible and has the best control. It has room for a lot of cuttings. We have an independent control of temperature and humidity in it. The water heater controls the water temperature. The heat that enters the box from the water is limited and can be controlled not only by the water temperature but also by changing the surface area of the water tub—a bigger tub means more water and heat can enter the box. When the temperature of the box starts to cool in the evening hours, the heating mat comes on and provides dry heat, without introducing additional water into the air that is already at 100% humidity. As a result, there is very little condensation in this box. The pictures in the next column show this humidity box on a cold morning with an ambient temperature of 40F. The box was operated at 80F and 100% humidity. Look at how little condensation we have on the uninsulated top and front panel. Also, look at how water droplets on the roof plastic, when they get

big, they slide towards the walls (leaving a trail).

The only problem with this box is that it loses a little moisture over time and water should be added each time new cuttings are loaded. As the picture below shows, some of the moisture that condenses on the front plastic runs down the

plastic and goes through the seal on the wood at the bottom. This is really a minor problem. With 40F ambient temperature, there is no pool of water on the floor (this means little water condensation loss).

The performance of this box is by far superior to any other design. It controls both temperature and humidity independently. In other designs you do not have such control. The calluses that are formed in this box are outstanding.

I also designed and built a heated plastic box type of humidity box—mainly out of curiosity because people reported on Facebook that this box makes some unusually big calluses. It uses Dewaine Callahan's (of California) idea of an aquarium heater to heat the water and Leni Vinzon Boe's (of California) idea of filling the bottom of the plastic tub with water to provide humidity.

I placed a PVC pipe rack (6" high) inside the tub in order to support the cuttings. I placed a 300-watt titanium aquarium heater at the bottom of

the tub and placed the control thermocouple in the water in the bottom of the tub far away from the heater.

I filled the bottom 4" of the tub with water. I set the thermostat at 90F and turned on the heat (with the lid on). When the box was at 90F, I opened the box and placed the cuttings on the PVC rack.

The first night I operated this, the ambient temperature dropped down to 50F. The water temperature was controlling at 90F. However, the box air temperature dropped down to 68F, and there was massive condensation of water on the lid, side walls, and the cuttings. With this control scheme, the water temperature will stay at 90F for as long as the heater is powerful enough to overcome heat losses from the box. The air in the box is heated by two mechanisms: a) convection from the hot water surface, and b) by the steam the titanium water heater generates at its surface when it is on. As long as the water temperature is 90F the heater will be off, and the air will only be heated by convection from the water surface, which is very slow. Convection heat transfer is proportional to the temperature difference between the water and the air. So when the box temperature starts to drop due to heat losses due to cooler ambient temperatures, there is a large delay before the water heater will come on. In order to transfer heat, a temperature difference between the water and the air must exist. The lower the ambient temperature is the bigger the difference in temperature between the water and the air must be to keep up with the heat losses. This control scheme can never control the air at 90F in cooler ambient temperatures, and the box temperature will always dip big at night. Since the air is always at 100% humidity, any temperature drop will produce massive condensation throughout the box, not just at the wall but also on the cuttings. As a result, the cuttings will always be wet in the morning. This control scheme (control thermocouple in water) is not workable.

There is also another problem with this control scheme. When the temperature drops at night and the cuttings get wet, the cool damp conditions promote mold development. Some of the leaves of my cuttings rotted under these conditions. In addition, the tips of some cuttings were moldy and black. I have never seen this in my wooden humidity box.

I changed the control scheme by moving the control thermocouple from inside the water into the air at 4" above the water surface (picture below left). I attached the thermocouple on the tub wall. Now I am controlling the air temperature at 90F and let the water temperature float in order to provide adequate delta temperature to transfer heat from the water to the air and maintain the air temperature at the desired set point. During the day the water temperature was around 94–96F. At night, the water temperature rose to about 100F. On cold nights (in the 40's) the water temperature was 110F. But the air inside the box remained at a constant 90F 100% of the time (picture right). As a result of keeping the box isothermal, there was no massive condensation in the morning like with the first control scheme (thermocouple in the water).

With this control scheme, there is condensation on the outside walls of the box all the time (when ambient temperature is below 90F). However, there is no condensation where the water is because of the large heat capacity of the hot water. Above the water surface, there is a 2" wide heat transfer zone where the water warms the air. As the picture to the right shows, there is no condensation on the side walls in this heating zone either because of hot air movement inside this zone (transferring heat).

This box was operated for one week and a major problem was identified. Some cuttings were fried by the heat (pictures below). These cuttings were directly above the titanium water heater.

Here, there is no forced water circulation in the water tank (like in an aquarium), and the heater surface gets very hot. Steam is generated at the surface of the water heater. This steam appears as bubbles at the surface of the heater, which rise and release the steam at the surface of the water. Steam carries latent heat, and it is very hot. As a result, there exists a hot spot right above the water heater. We cannot avoid this hot spot. It is just the nature of the beast. What we can do though is to add a heat shield below the cuttings to protect them from the heat.

A good heat shield is an air gap. I placed a corrugated clear PVC panel, with the channels going along the length of the box, over the PVC rack. I left about 1" of space around for the air to circulate in the box. I then placed a second PVC corrugated panel, with the channels going along the width of the box. This way, an air space was created between the two PVC panels. The top panel is shown up for illustration. It is normally laid down flat. The cuttings sit on the ridges of the top corrugated PVC panel. This offers added protection to keep the cuttings dry from water condensation on the lid (water runs into the PVC panel's channels). There were no more problems with the heat after this modification was made.

The humidity was measured to be 100% all the time. It cannot be controlled lower than 100%, because we provide wet heat to control temperature. In other words, when the heater comes on, not only does it provide heat, but it also makes steam at the heater's surface, which introduces more moisture in the air even though the humidity is 100%. A heating mat does not do this because its surface does not get hot enough to generate steam. This means that there will always be condensation of water, lots of it. As a result, on cool nights where the heater comes on frequently, there is fine condensation on the cuttings. During the day the cuttings remain totally dry. Some design changes were made to solve these condensation problems. A corrugated PVC panel drip guard was installed at the top to protect the cuttings from getting wet from the top from condensed moisture on the lid. It was mounted on the right side of the box with plastic nylon cable ties and can swing open like a door. A series of ½" holes were drilled on the ridges to allow air to circulate through. Any water dripping from the lid goes into the channels of the drip guard and drains quickly.

The thermocouple was moved from the wall to the top of the corrugated PVC heat guard. The wall is normally colder than the air in the box. By placing the control thermocouple on the PVC heat guard, we get better temperature control of the air inside the box. So in essence, by the use of the drip guard at the top and the heat guards at the bottom, I created a pocket to protect the cuttings from both the bottom and the top. The air inside the pocket goes to 100% humidity by a process called diffusion. 100% humidity in the pocket (all the time) was verified with actual measurements. The top corrugated PVC panel heat guard keeps cuttings dry. Any water dripping from the top simply falls into the channels of the top heat guard and drains out.

The next picture below left shows this box operating on a cold morning (40F ambient temperature). As the mercury thermometer shows, the temperature of the air over the drip guard is 90F. There is no cooling down in the evening with this design; it stays at 90F day and night. Look at the top guard; it has little condensation below it, mostly just a fine mist. There is no water accumulation on top of it anywhere. The picture below right shows the cuttings after the top drip guard is lifted. The temperature of the air in the pocket is 90F and all the cuttings are totally dry. If you notice, there is some water condensation around the perimeter on the underside of the heat guard panels. The hot air and steam rise around the PVC panels and deliver the heat where it is mostly needed, at the walls of the box where most of the heat losses occur. The hot air then rises to the top and heats the lid. As a result, the cuttings are totally protected in the PVC panels' pocket and are not exposed to these air drafts. As a result, they are at 100% humidity (measured) and constant 90F temperature and remain dry 100% of the time. These are perfect conditions to callus the cuttings without getting mold. Mold is the result of cool and wet conditions.

The top lid is insulated with ¾" foam insulation. However, on cold nights it still gets condensation. This condensation is normal and cannot be completely eliminated. However, it can be minimized by better insulation of the lid. I covered the top lid with a double-folded old towel. It significantly cut down lid condensation.

I also tried to heat the top lid with a heating mat by installing a 17-watt heating mat under the lid. I then supported the heating mat with thick copper wires. I used a separate thermostat to control the heating mat and placed the control thermocouple on top of the PVC drip guard. I set the set point of the heating mat at 95F and the set point of the air in the box (water heater) at 90F. In the morning, there was massive condensation on the unheated portion of the lid and on the perimeter of the box. The heating mat had no condensation on it.

There was also a lot of condensation underneath the perimeter drip guard while the center was dry (picture left). In the center of the box, all the cuttings were dry but wet in the perimeter of the box (picture right). Using a heating mat to

heat the lid was a disaster. With wet heat, as in this case, the extra water added by the titanium heater as steam must condense somewhere in the box. By heating the lid, I moved this condensation from the lid to the cuttings. This design works so much better without the heating mat. Let the extra moisture in the air condense on the lid; it does no harm as the cuttings are well protected from getting wet by the drip guard.

One difference I noticed between this design and the previous control system is that the cuttings do not get mold or rot on the leaves. With the previous control scheme (thermocouple in water), the cuttings were getting wet, some of the leaves were rotting, and some of the cuttings developed mold. With this scheme (thermocouple in the air) the cuttings really looked good, and there was no sign of mold or rot. I believe this is because I do not have wet and cool conditions; the cuttings always stay hot and dry (isothermal conditions).

I also tried the 116 quart plastic box with the 300-watt aquarium heater with 3” of water at the bottom of the box. I could not achieve higher temperatures (90F), and there was a sharp drop in temperature at night; the heater could not keep up with the heat losses. If the box is insulated very well, it might work. I moved the thermocouple from the water to air, about 4” above the water line. With the heater on 100% of the time, I still could not reach and maintain high temperatures in it. I then emptied the water out of the tank, put a pot of water in the tank, and installed the titanium heater in the water. Next, I placed the control thermocouple in the water, placed two heating mats, 17 watts each, to cover the rest of the plastic tub, and controlled the heating mats with a separate thermostat. I thought the extra heat provided by the heating mats would help raise the temperature of the box to the desired level. I was still getting a large temperature drop at night and massive water condensation. Neither could reach 100% humidity either (not enough water surface). On cold nights I was getting 82% humidity and 64F. I moved the control thermocouple of the 300-watt aquarium heater from the water to the air, about 4” from the water line. This caused the water heater to stay on 100% of the time at night. With both the heating mats and the water heater on 100% of the time at night, I still could not keep it at the desired temperature of 90F. I think it could work with a second aquarium heater in the water. I have two working models of a heated humidity box. Since I really did not need this, I abandoned it. I will just use the plastic tub with mulch in the bottom and no heat to callus cuttings in the summer. If you build one of these, stay with the 56-quart plastic tub, or if you choose the 116-quart tub, be prepared to do some development work.

In conclusion, the best and most foolproof way to callus cuttings is in humid air. Any time you use a medium to callus cuttings in, you have an uncontrolled environment and some of the cuttings will get wet and rot. This goes for mulch, Saran™ wrap, LET, beeswax, etc. In humid air (95–100% relative humidity) the cuttings stay dry and none of them rot. With a properly designed humidity box, we can precisely control the humidity and temperature of the air. Callusing is fast (one or two weeks), and the callus quality is excellent. I prefer to use the heated humidity box in the winter months and the unheated humidity box in the summer months. The wooden humidity box design is my favorite because it is the most flexible and allows independent control of temperature and humidity. This fine control is achieved by the use of a combination of dry and wet heat to control it. Its performance is unparalleled. Additionally, it can be designed to fit a large amount of cuttings. The plastic box design is nice and best for most people who callus just a few cuttings. Its performance is also outstanding. However, it can only run at 100% humidity because it is heated with wet heat only. (The heater adds more water, via steam, to the air when it comes on even though the humidity is 100% at the time.)

The advantages of callusing in humidity boxes cannot be overstated:

1) Callusing in a humidity box is by far the simplest and most powerful method to callus cuttings.
2) It makes the highest-quality calluses in the shortest period of time.
3) No cuttings rot because they stay dry all the time.
4) Unlike callusing in medium, there is no need to sterilize the cuts because there are no pathogens in the air that would cause problems.
5) Callused cuttings have living skin and bark and do not need protection from pathogens; they will not rot when planted in soil.
6) Cuttings do not lose moisture in a 100% humidity environment and never shrivel. Shriveling makes the cuttings less viable.
7) Unlike callusing in a medium, we do not have to guess how much moisture the medium should have to avoid problems.
8) In humidity boxes, the environment at the cut end of the cuttings is precisely controlled. This is not possible with any other method.

The Process of Developing a New Plumeria Variety ...

Inflo on *Raspberry Sundae*

Seedpod on *Red Santa*

New Seedling


Pink
Ruffles


My Valentine


Hong Kong


Wildfire

The Plumeria Society of America Website

Additional information concerning The Plumeria Society of America and culture of plumeria plants may be found on the World Wide Web at the following address:

JOIN US ON facebook

http://www.ThePlumeriaSociety.org

A listing of currently registered cultivars — Research Committee Bulletins — PSA By-Laws

Plumeria Care Bulletins — Photos from past events — Map links to meeting and sale sites

Photos of plumeria plants and flowers — past color insert pages in PDF format

Purpose of The Plumeria Society of America

(1) Promote interest in and increase knowledge of plumeria hybridization, propagation and culture of plumerias.

(2) Share this knowledge with hobbyists interested in plumerias.

(3) Provide a register for recording, identifying and classifying by name new types and varieties of plumerias.

(4) Encourage and unite plumeria enthusiasts around the globe, throughout America and across the seas.

PSA Calendar — 2013

January 8 .... meeting

March 12 .... meeting

May 14 .... meeting

June 8 .... Show & Sale I (Seabrook/Clear Lake)

July 9 .... meeting

July 20 ......Show & Sale II (Fort Bend County Fairgrounds)

October 8 .... meeting

OPEN .... Fall Social/Luau

- All regular meetings are held at the Houston Garden Center in Hermann Park, 1500 Hermann Drive, Houston, TX. Meetings begin at 7:30 p.m.; workshops begin at 6:45 p.m.
- Bring your blooms. Bring your friends.
- Bring plants, cuttings, etc. for door prizes! These can be anything, not just plumerias.
- Visitors are invited and encouraged to attend.

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Dues are $25 per year

Copy this page for all your friends who love plumeria or just want to know more about them.

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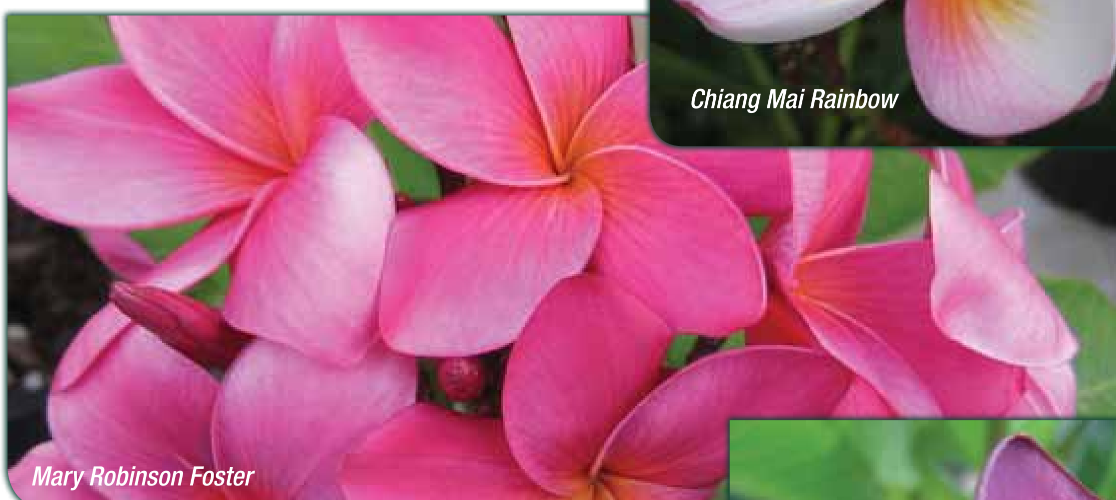
Heart of Gold

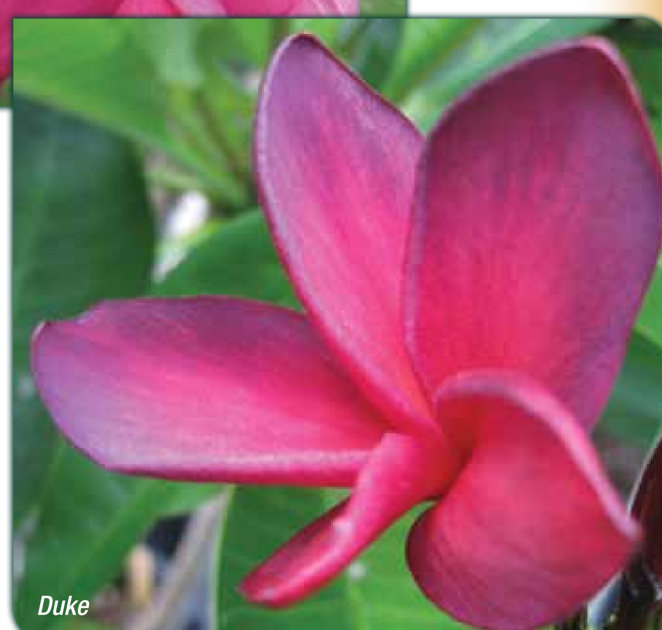

Banana Berry


Hawaiian Rose


Chiang Mai Rainbow


Mary Robinson Foster


Dwarf Watermelon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