



The Plumeria Society of America, Inc.

March 2013

Plumeria Potpourri

Next Meeting: Tuesday, March 12, 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 ~

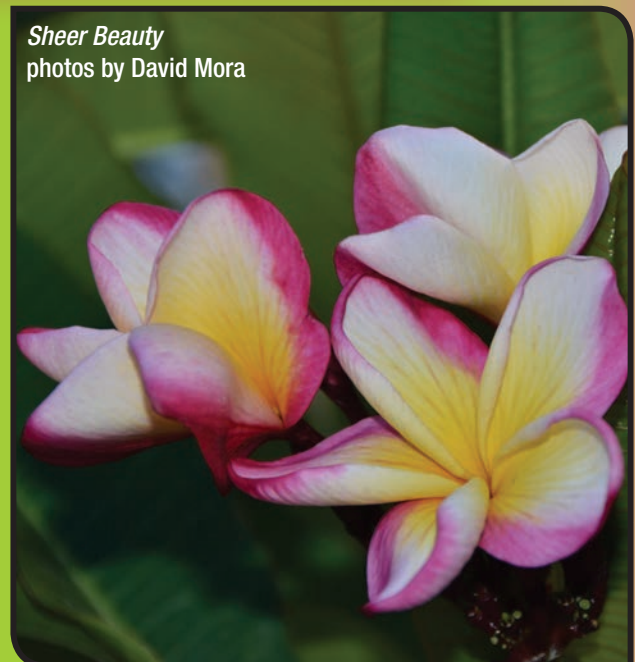
Come to the March meeting!

Speaker: John Ferguson M.S., P.G.

Owner: Nature's Way Resources, Conroe, Texas

Topic: Soil Biology and the effects of mulch
and compost on plant growth and health

Website: <http://www.natureswayresources.com>



Sheer Beauty
photos by David Mora

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President's Corner

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

I must admit, there are many things I don't think about. Trying to cancel a PSA meeting at the Hermann Park garden center was one of them. After 35 years of meetings, the need to be able to notify members became apparent.

I apologize to the people who drove to the park to find the building closed. At least you didn't have to drive through flooding rain—the reason for the cancellation. This is why we have created a Facebook page for The Plumeria Society of



America. This way notifications can be posted to this page with up-to-the-minute news.

I don't want to hear that you are too old, too busy, or too grumpy for Facebook. I am all of the above and did it anyway. The PSA's Facebook page will be for plumeria-related topics, pictures, etc.

This coming August, the Hermann Park garden center will be demolished to make way for a new

building. We will meet in another facility until 2015, when the new building will open. We will be notified in late March of where our meetings will be held during this time of transition. This Facebook thing is starting to sound a little more reasonable now.

On a sad note, Dan Teel, our Membership Chairman, suffered a serious head injury in January. His wife Joan, our Treasurer, has resigned her position to be at his side. Our prayers are with them and their family.

If you have a problem with or question about membership, please contact me until the position can be filled.

Because of the service-to-the-society rule to be able to sell plants at the PSA sales this summer, attending this next meeting in March is important. Sign-up sheets will be available to volunteer your time at the Home Show. This is an important way for the society to meet people, promote plumeria, and make new friends. The educational opportunity is huge. We usually sign up new members from this venue, and this is very important to all of us.



Wishy Wishy—an Australian variety Luc was very fond of.



Okeechobee Pink—a central Florida variety that Luc discovered.

In Memory of Luc Vannoorbeeck

Luc Robert Vannoorbeeck, inveterate nursery man, plant lover, and bon vivant, passed away after a brief illness on February 13, 2013 at the age of 77.

He was born in Belgium on October 13, 1935 and moved to the USA in 1961 to start work in tropical agriculture. He received his Master's Degree in Agronomy, specializing in weed control, from the University of Arizona, and spent many years in herbicide research.

In 1976 he started his own nursery business in Homestead, Florida, specializing in hybrid hibiscus. After Hurricane Andrew destroyed the area in 1992, he and his wife Carol turned their attention to the growing and hybridizing of plumeria which they turned into a successful business named Florida Colors.

Luc was a long-time member and treasurer of the Tropical Flowering Tree Society, a past National President of the American Hibiscus Society, and a past President of the South Dade Chapter of the American Hibiscus Society and the Florida Nursery Growers Association. In addition, he was a member of The Plumeria Society of America and the Australian Frangipani Society. His success in the hybridizing of both hibiscus and plumeria is evident in the many cultivars he created and named.

Among Luc's surviving family are his wife Carol, his sons Vincent and Philip, daughters Martine and Marie-Joelle, his brothers Philippe, Bernard, Mark, sisters Anne and Christine, his nephew Benoit, great niece Abigail, as well as numerous other relatives both in the United States and Europe.

Luc loved sailing, traveling, and eating well, with a special fondness for Belgian chocolates. His infectious Joie de Vivre put a smile on the face of everyone with whom he came in contact. He will be missed greatly.



Friends and family paid their respects at a mass in his honor at Sacred Heart Church in Homestead on Saturday, February 23rd. Anyone wishing to make a donation in Luc's name, may direct payment to the attention of Hetty Ford at the Naples Botanical Garden, 4820 Bayshore Drive, Naples, FL 34112. Checks should be made out to the Naples Botanical Garden, and in the memo box write "in memory of Luc Vannoorbeeck."



Life Cycle of the Plumeria Borer (*Lagocheirus undatus*)

As interest in plumeria expands, more and more people are acquiring cuttings for their own use or resale. Sometimes people are not familiar with a dangerous beetle called the plumeria borer. This insect bores into the stem of a plumeria and lays eggs inside the stem. The eggs hatch and larvae/grubs feed within the stem of the plumeria. When the larvae attain full size, they pupate, then metamorphose into beetles which gnaw their way out of the rotted plumeria stem. The cycle repeats itself as the beetle finds another plumeria branch to infest with its eggs.

If you have a plumeria cutting with larvae, it will rot as the larvae will eat/hollow out the inside. If you have a plumeria tree, branch after branch will die, and eventually your tree will die. The following photos show the life cycle of the plumeria borer: egg (no photo available), larva/grub, pupa, beetle.



Frass (larvae poop) being pushed out of the bottom of a cutting by larvae which were inside eating out the stem



A cutting that started to soften and when cut open had larvae/grubs inside



Larvae hollowing out a plumeria branch
(photos provided by Doug Brunner/Maui Plumeria Gardens)





Larva (left) in the process of becoming a pupa. Pupa (right). (photo provided by Dr. Richard Criley, University of Hawaii)



Pupae

(photos provided by Dr. Richard Criley, University of Hawaii)

Plumeria borer beetle
(photo provided by Doug Brunner/Maui Plumeria Gardens)

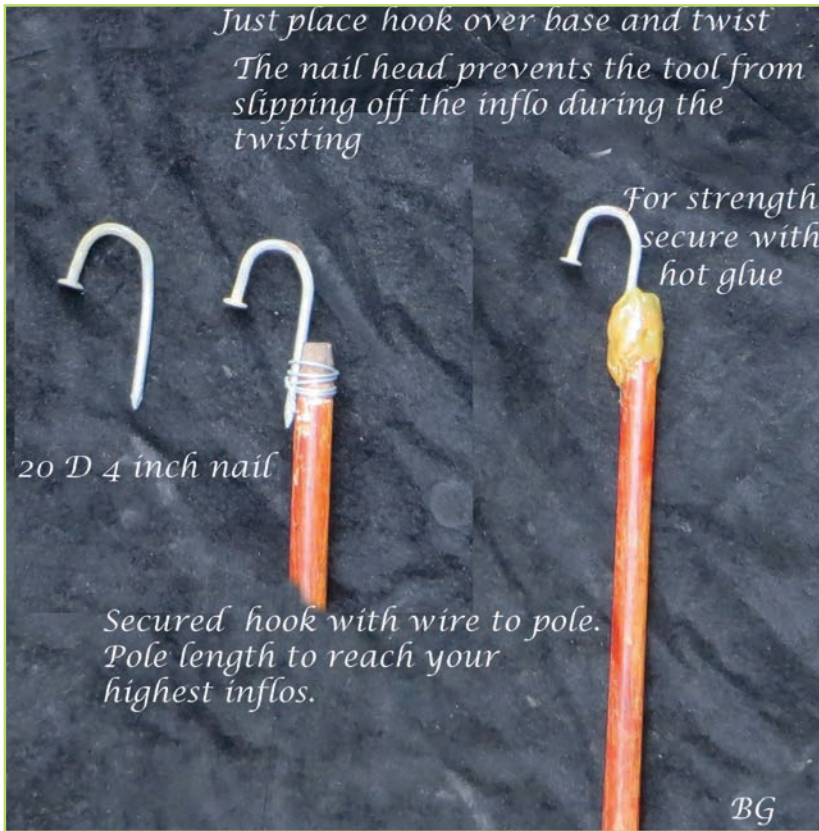


The photo on the left shows exit holes of the plumeria beetle. These three cuttings were brought to California last Fall, and bagged for rooting. The cuttings came with either eggs or small larvae inside of them. Eggs and small larvae inside a cutting are usually not detectable by visual inspection. During the bag rooting process, the larvae turned into pupae, which then metamorphosed into beetles. The beetles gnawed holes in the two cuttings on the right and gnawed a hole in the plastic bag on the left. The beetles then crawled out of the holes.

Conclusion: When rooting cuttings (in a pot or in a bag), it is wise to regularly feel/squeeze the bottom part of the cutting to be sure it's firm. If there is softness, it could be rot, or it could indicate the presence of larvae at work hollowing out your cutting. If you do find evidence of larvae, the cutting and larvae should be destroyed—do not put them with your green, recyclable waste.

Bud's Out-of-Reach Dead Inflo or Leaf Remover

by Bud Guillot, California



If rotting inflos or leaves are hard to reach because your plumeria tree is tall or your stored plumerias are stacked five-feet deep, this tool helps to reach and remove them. Dying inflos are important to remove as sometimes rot may travel down into the plumeria stem.

Bud's Flower Holder



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 8 th	July 10	List of plumerias to be sold July 20 th
June 8	Sale in Seabrook	July 20	Sale at Ft. Bend County Fairgrounds

The Case for Using Squat Pots—Part 2

by George Hadjigeorge, Texas

There are many different pot designs on the market. Different pot shapes are designed to fit the growth habits of different plants. For example, let us look at five-gallon pots, which are very common nursery pots. Most good size plants are sold in 5-gallon standard pots. The picture below shows various 5-gallon pot designs. The 5-gallons refers to the trade size; it is not the actual size of the pot. The pot on the left is a 5-gallon standard pot, which is 11" in diameter and 12" high, with an actual volume of 4.2 gallons. So, the 5-gallon standard pot has an actual volume which is less than 5 gallons. The pot to its right is a 5-gallon egg



can pot, which is 10" in diameter and 12" high, with an actual volume of 3.6 gallons.

This pot is good for citrus trees because they have a taproot (but not really long like pecans). The next pot to its right is a 5-gallon squat pot. It has a 14" diameter, and it is 10" tall and has an actual volume of 5.3 gallons. This is designed for plants with spreading, shallow roots. The pot on the right is a 5-gallon tall pot. It is very tall (19.5"). It is designed for trees with long taproots, like pecan trees. For trees that have a very long taproot, if planted in a standard 5-gallon pot, the taproot will circle around the bottom, affecting the tree when planted in the ground. The pot on the right has a 10" diameter, and the actual volume of the pot is 5.9 gallons. Even though they are all called 5-gallons pots, the actual size varies from 3.6 to 5.9 gallons. Also, actual sizes of a given trade size could vary some from manufacturer to manufacturer.

Which pot fits the plumeria roots growth habit best? Most people use the standard pots to grow plumerias in, mainly because they are widely available in retail stores. Is that a good choice? In Part 1 of this article, published in the last issue of *Plumeria Potpourri*, I showed that both plumerias grown from cuttings and plumerias grafted onto seedlings, grow shallow roots that naturally spread outwards. Thus, it makes sense then that we should be using squat pots for plumerias because these pots are designed to fit plants that have shallow, spreading outward roots. The squat pots will allow the primary roots to spread outward as much as possible. The feeder roots, which grow from the side of primary roots, will then fill the pot, up and down from the plane of the roots, and the pot will be used very efficiently. In addition, if we want to grow the plumerias in a certain maximum size pot, when we root prune and repot, by using squat pots we will maintain the biggest possible root ball. If the pot diameter is smaller, by using standard pots, root pruning will result in a much smaller root ball. Egg can and tall pots, with their smaller diameter, are much worse than standard pots for plumerias. The extra room the squat pots provide in the diameter at the expense of height allows roots to spread out better, and we will have a much happier plumeria. The next picture shows a standard 5-gallon pot on the left and a 5-gallon squat pot on the right. Look at how much more room the plumeria roots have to spread out. The squat pot is 2" wider than the standard pot, which does not sound like a lot. But, look at the picture; it is really a big difference.



The next picture shows a plumeria on the left in a 7-gallon standard pot and a plumeria on the

right in a 7-gallon squat pot. Again the difference is big. The 7-gallon standard pot is 14" in diameter by 11.75" tall with a true size of 6.1 gallons. The 7-gallon squat pot is 16" in diameter by 11" tall with a true size of 7.8 gallons.



For pots larger than 7 gallons, the true size is closer to the trade size, and there is not much difference in capacity between standard and squat pots. The true size of a 10-gallon standard pot is 10.7 gallons, whereas it is 10.5 gallons for a 10-gallon squat pot. However, the squat pot is shorter and fatter. The picture below shows a

10-gallon squat pot on the left and a 10-gallon standard pot on the right. The difference in the two is dramatic. Plumerias will be much happier in the squat pot on the left, since it gives the plumeria so much more room for the roots to spread out.



What happens if we use standard or egg can pots to grow plumerias? Here are some examples with what happens to the roots if the pot is too narrow.

This is a one-year old plumeria grown in a 5-gallon egg can pot. The primary roots were growing outward. They hit the wall of the pot, bended, and followed the wall of the pot, circling around the perimeter of the pot.



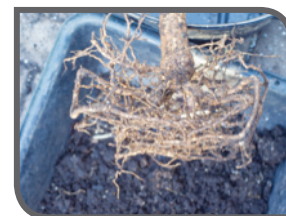
Some of them are actually permanently deformed, with a 90-degree bend in them. Clearly it does not take very long for the plumeria roots to spread out and hit the wall of a 10" diameter pot.

Let us look at some longer-term effects on the roots in small diameter pots. The next two pictures below show the side view and bottom view of the root system of a root-bound plumeria that was growing in a 5-gallon egg can pot. Major roots grow both up and down from the root plane to fill the narrow pot. All major roots have hit the pot wall and are rolling around the pot wall and bottom.



Most feeder roots, growing from the side of primary roots, are on the end section of major roots. Cutting an inch of roots around the perimeter of the rootball before potting up or repotting will remove a very large percentage of the feeder roots and result in a very small rootball. The main outward growing primary roots grow very long. A 10" diameter pot is just way too small in diameter to grow mature plumerias because it does not allow the roots to spread well. The plant will be much happier in a larger diameter pot.

Here is another example of a root-bound plumeria in a 5-gallon standard pot. The main roots grew outward until they hit the pot wall, bended down, and then at some point turned inwards. Any kind of root pruning around the perimeter will remove most roots.

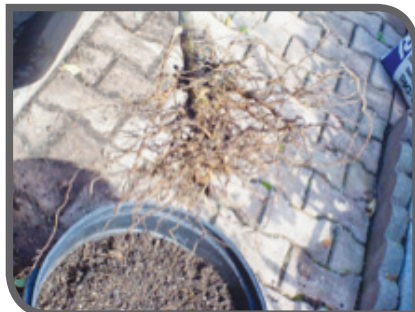


Plumerias grafted on seedlings suffer from the same problem of root bounding as plumerias grown from cuttings. Here is an example of a 3-year old seedling in a standard 5-gallon pot. The roots hit the wall of the pot quickly and roll around the pot. The picture on the right shows the same seedling

in a 5-gallon squat pot. Look at how much more room a squat pot gives the roots to spread out.



Let us now examine the root system of a 3-year old seedling growing in a 7-gallon squat pot (picture on the right below). A 7-gallon squat pot is 16" in diameter, versus 11" for a standard 5-gallon pot. It gives the roots quite a bit more room to spread. The picture on the left below shows the root system of this seedling. Look at how the roots spread out



without hitting the wall and rolling around the pot. Notice how the roots, when they have room to grow,

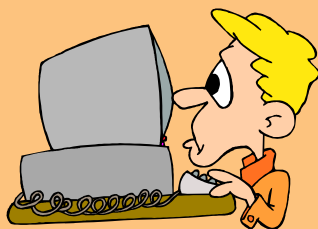
spread out rather than grow down. Root pruning a plant like this, by removing 1" around the perimeter of the root ball, will leave behind a nice and healthy

root system and will not do major damage to the root system.

Another advantage of squat pots over standard pots is that they have a wider base, and they are much more stable in windy situations. It will be a lot harder for the wind to knock down a plumeria in a squat pot because it has a lower center of gravity and a wider base than a plumeria in a standard pot.

Concluding, the primary roots of plumerias are shallow and grow outwards, independent of whether or not the plumeria was grown from a cutting or grafted on a seedling, and grow long and need space along the diameter to spread. Thus, plumerias are much happier in squat pots that allow roots maximum horizontal room to spread out rather than in any other type of pot. Squat pots give extra room for the roots to spread and develop a much better root system than standard pots. So when a plumeria is repotted or potted up, root pruning of squat-pot-grown-plumerias leaves behind a much bigger and healthier root ball than plumerias grown in standard pots. In addition, plumerias grown in squat pots have a lower center of gravity and wider base and are much more difficult to be blown down by wind. In my opinion, the minimum pot diameter to grow mature plumerias should be 14", and preferably 16" (which corresponds to 5-gallon and 7-gallon squat pots respectively). Those extra few inches in the diameter of squat pots make all the difference in the world.

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Plumeria Don



Marengo



Photo by Mark Terrill

Abigail



Henriette



Donna S—Luc's discovery on Pine Island, Florida