Plumeria Potpourri

The Plumeria Society of America, Inc.

Come to the May meeting!

Tuesday, May 13, 2014, 7:30 p.m.
Metropolitan Multi-Service Center
1475 West Gray, Houston, Texas
Anyone with an interest in plumeria is invited to attend!

Speaker: Eulas Stafford

Topics: Grafting Plumerias, Winter Freeze Damage, and Saving Plants

JL Dane (photos courtesy of Diem Nguyen, Tustin, Southern California)

In this issue ...

President's Corner

by **Bob Arend, Texas (arendbob@gmail.com)**

The Home and Garden Show held on March 28, 29, and 30, 2014 at the George R. Brown Convention Center was very successful. The Plumeria Society of America booth was manned by volunteers all three days. It provided us the opportunity to introduce plumerias to a large and varied group of people. We sold plumeria cuttings at our booth and added $1,347.00 to the society's bank account.

The May 13, 2014 meeting will feature Eulas Stafford discussing grafting plumerias, winter freeze damage, and how to try and save these plants. We will also have a wide range of plumeria members discussing the extensive variety of ways to take care of plumerias. At the end of the regular meeting, those selling plumerias at the June and July plant sales will gather to cover topics essential for the plant sales.

We need volunteers to work both of the upcoming plumeria sales—June 14, 2014 at Seabrook and July 26, 2014 at the Fort Bend County Fairgrounds. We will have sign up sheets at the May 13th meeting.

We are making continued progress in bringing The Plumeria Society of America's website back to life. The site should be up and running very soon.

We are still looking for members to offer to hold yard tours this summer and fall. Everyone loves seeing how others cultivate their plumerias and other plants.

Current address for PSA meetings:
Metropolitan Multi-Service Center, 1475 West Gray, Houston, TX 77019

The location will change again when the new garden center at Hermann Park is completed.

PSA Sales for 2014

by **German Collazos, Texas**

The first plant sale for 2014 is June 14th in Seabrook, Texas, followed by the sale at the Fort Bend County Fairgrounds on July 26th. 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 time line of important dates for our 2014 sales. Please contact me with any questions at **(713) 670-4064** or **german.collazos@tic.toshiba.com**.

Seabrook (Clear Lake) Sale—June 14		Fort Bend Sale—July 26	
May 6	Commitment to sell at Clear Lake	July 1	Commitment to sell at Ft. Bend
May 13	Sellers' meeting (after general meeting)	July 8	Sellers' meeting (after general meeting)
June 4	Cultivar list for Clear Lake sale	July 16	Cultivar list for Ft. Bend sale
June 14	Sale at Seabrook	July 26	Sale at Ft. Bend

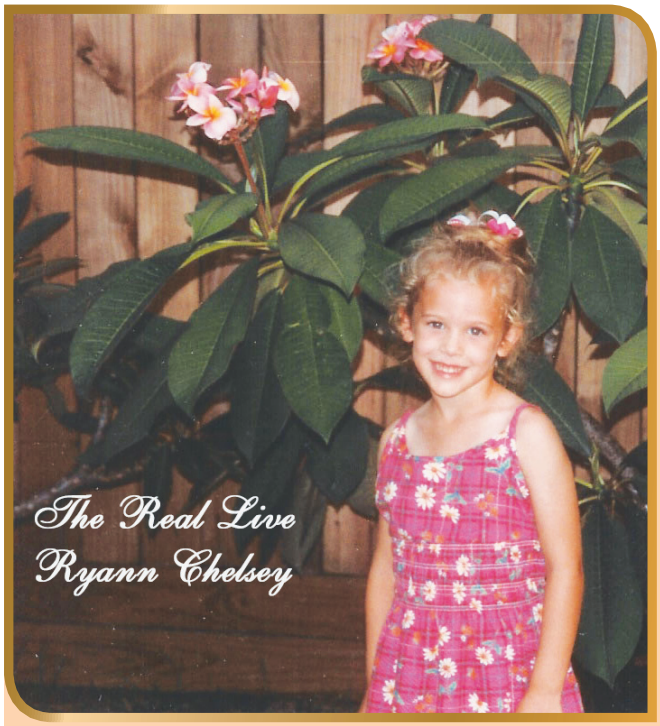
Plumerias Named for Special People

by **Emerson Willis, Texas**

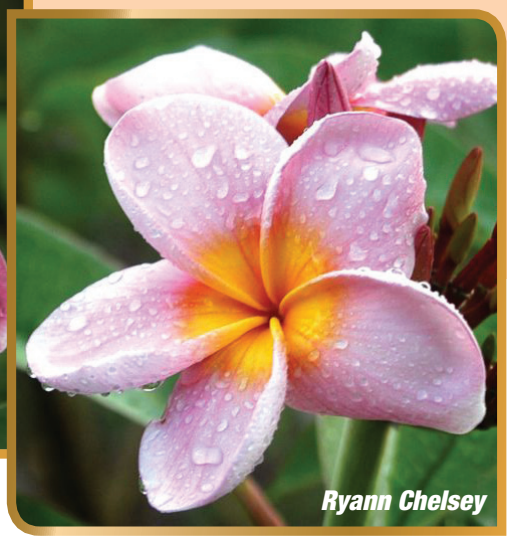
This is the beginning of a series which will put faces to a few of our named plumerias. I certainly hope everyone finds it interesting. Help from anyone with photos would be greatly appreciated, for there are many plumeria flowers and many faces in this category. Please send photos and information to me at **theplumeriaman@aol.com**.

Of course, I'll begin the series with *Ryann Chelsey*, a flower named for our oldest granddaughter. This lovely pink flower was a find from the Florida Keys. It was registered with the PSA in 1998.

Ryann Chelsey



My, how the years slip by ...



Abigail

Abigail Jonckheere, Luc and Carol Vannoorbeeck's niece

Iris Sunset

Iris Rock was an old friend of ours. Nancy and I would visit with her and help a bit with her plants. We loved hearing about the early days of the PSA from her. The plumeria named for Iris was a find, and it came from the Rio Grande Valley. I took the photo on her patio in Houston, Texas.

Our friend, the late Iris Rock

Growing Tips

by **Bud Guillot, Southern California**

This is a very large California Sally tree which needs a little pruning. I'm ready!

Usually when pruning most trees, we are told to cut out crossing/interfering branches, but with plumeria trees, I like to have them cross. In fact, I purposefully encourage/direct them to cross. I like the aesthetics of the crossed branches, plus the crossing branches support each other as the tree becomes larger.

The photo below is a close-up of how this California Sally tree has grown over the years with its crossed branches.

Tip: To prevent rot, when planting in the ground or repotting a plumeria, maintain the same level as before.

Tip: When planting a plumeria in the ground, visualize how large the tree will become and plan accordingly. Definitely don't plant it too close to your house!

Tip: When obtaining a cutting, usually larger cuttings root more easily, because the bottom has more woodiness and less pith (less pith = less possibility of rot). You'll save time and money by starting with the largest cutting you can find as it most likely will root, and will already have years of growth on it.

A Short Story

by **John Brownlee, Texas**

If you are looking to read something funny, not here—I don't do funny. If you are looking to read how to root your cuttings on a tree or on the side of a house—stop—this isn't about rooting your cuttings.

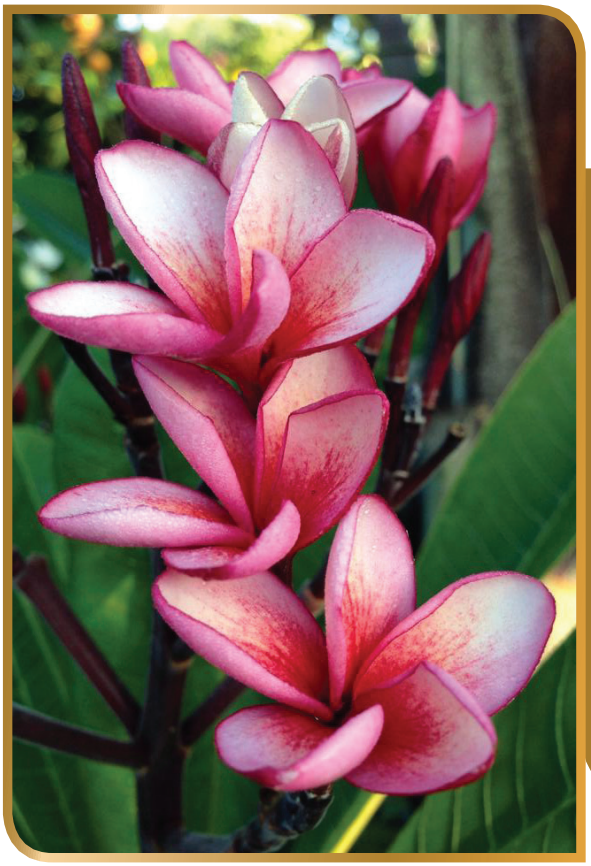
This is a short story on what I do to get ready for winter. Boring I know—sorry about that. Most of the time our winters aren't very cold, but this year has been cold. Here in Houston, we don't see snow and ice often, but we did this year.

When I first joined the plumeria society, I only had seven plants. So when the weatherman said it was going to be cold that night, I just picked up the plants and brought them in. After a day or so, out they went. Now with so many plants, I can't do that. It takes a long time to get all my plants in.

This is what I do now. My winter starts in October. That's when I start getting ready. First I start taking the leaves off. Every night after work, I spend 30 minutes cutting leaves. On Sundays, I clean and make ready the garage for my taller plants. Then it's on to the greenhouse—testing the heater, fans, and lights. Then I spray inside the greenhouse with poison. I just want to be sure there aren't any bugs in there when I bring in the plants. I also build a lean-to under my carport. It looks tacky, but I don't care. I put plants in there that I can't get in the garage or greenhouse. Only the greenhouse has a heater. We cover the plants in my lean-to and have never had any problems until 2014. We have tip trouble on plants in both the garage and the lean-to. Real bad in the lean-to! The tips burned from being too cold.

In the spring when we bring out the plants, I will cut off the burned tips. From now on, we will have a heater in the garage and in the lean-to.

That's what we do every year. So what do you do to get ready for the winter?



JL Allison (left) and *Miracle* (right)
(photos courtesy of Diem Nguyen)

Preventing Sunburn—Part 3

by **George Hadjigeorge, Texas**

In part 1 of this article, I explained how heat radiation works and how it relates to sunburning of plumerias. In part 2, I showed that the most common spot where plumerias get sunburned is the bottom few inches of the trunk, next to the soil surface. The sunburn happens when reflection radiation from the soil surface and direct radiation from the sun fall on the same spot on the trunk, creating relatively high local temperature on the trunk. Sunburn occurs when the surface temperature of the trunk area gets above a certain threshold limit.

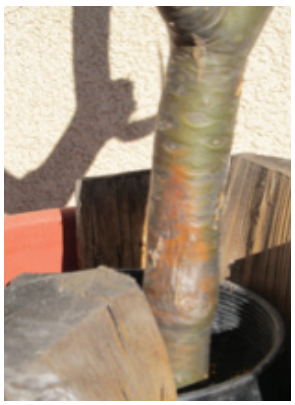
Plumerias can also sunburn higher up on the trunk. As I explained in part 2, reflection radiation from the soil surface cannot travel more than 4–6" to cause sunburning higher up on the trunk. When sunburn higher up on the trunk happens, it is either due to reflection radiation from nearby objects or due to excessive ambient temperatures (either in greenhouses or in desert-type climates).

Let us look at some examples of this type of sunburning of plumerias.

Bethel Williams of San Diego, California provided the following picture. This is a cutting

being rooted in full sun. It got severely sunburned all the way around the trunk but not at the soil line, where plumerias normally get sunburned. Besides the aluminum tag, there are no other objects next to the cutting. The sunburn starts at a little below the bottom of the tag and extends to a little above the top of the tag. Clearly the aluminum tag had something to do with the sunburn. This is an impression tag. It has thin aluminum on both sides and cardboard sandwiched between them. Cardboard is a good heat insulator. As a result, the heat that was absorbed by the tag did not dissipate from the backside and instead it all got reflected forward onto the trunk. In addition, since the tag was new and shiny, it deflected part of the sunlight that fell on it onto the trunk (as high intensity radiation). Also, the tag was touching the trunk resulting in the maximum reflected radiation hitting the trunk. This means that two times sunlight was hitting the trunk, and it fried it all the way around the trunk from extreme heat. Normally, reflected radiation, like off the soil surface, is infrared and has low intensity. This case demonstrates how much damage mirror or shiny metal surfaces can do to plumerias. Not all tags sunburn plumerias. It depends on the angle the sun hits the tag and where the reflected radiation falls. Wind could also swing the tag and disperse some of the reflected radiation. In this case, a lot of conditions were just right to produce this severe sunburn.

Wendy Machala of San Diego, California provided the following pictures. This plumeria was planted in a black plastic pot. The black pot was placed inside an ornamental pot and wood blocks were used to stabilize the plant. The pot was placed



next to a wall in direct sun (about 12" away from the wall). The left picture shows that the plant has

no sunburn anywhere on the branches of the plumeria that are next to the wall. There is also no sunburn at the base of the trunk next to the soil line. There is a 3"-long sunburn that starts at the rim of the black pot and ends at the top of the wood blocks (right picture). The sunburn is only a few inches away from the wood block in the foreground. Let us analyze this situation. The plumeria branches next to the wall did not get sunburned for two reasons: a) reflection radiation off the wall hits the back of the branches that are in the shade. As it was explained in part 2, neither reflection radiation by itself nor direct radiation from the sun by itself can cause sunburning in most areas. The base of the trunk next to the soil surface did not get sunburned because that area is shaded by the wood blocks most of the day. The spot that got sunburned, depending on the sun's angle, could receive reflection radiation from the wood-block in the foreground and direct sun radiation at the same time. The two are additive, causing higher local temperature, and then sunburn. How can we prevent this sunburn? We could cut the wood blocks to be flush with the rim of the pot and make sure the pot is filled with soil to the rim. This would eliminate reflection radiation from nearby objects and the trunk will not get sunburned. If we must have this arrangement, then we could add a radiation shield to the trunk. We could paint the lower trunk white with latex paint. This will reflect most of the radiation that falls on it, and it will not get sunburned. Another way is to cover the bottom 10" of the trunk with aluminum foil. Aluminum foil reflects 91% of the heat that falls on it and will protect the trunk from getting sunburned.

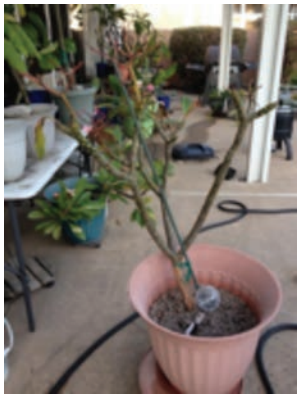
Delton Haverkamp of Los Angeles, California provided the following pictures. The cuttings were being rooted in semi-shade. They only received morning sun from 8 a.m. till 11 a.m. Yet, some of them got sunburned. Delton roots cuttings in plastic coke bottles (1 liter size). The sunburns were higher up on the trunk and not at the base of the trunk next to the soil surface. This type of sunburn cannot happen from reflection radiation from the soil surface because sufficient amount of this radiation cannot travel this much distance. So, I started asking Delton questions, trying to understand what really caused this sunburn.

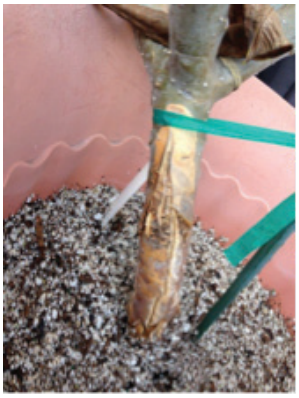
It turns out that Delton puts multiple coke bottles with cuttings into 5-gallon black nursery pots, as the picture below shows. As you can see, the coke bottles cover only the bottom half of the

black pots; the top half of the black pots is just a few inches or less away from the trunks of the plumeria cuttings. So, depending on the sun's angle, it is very easy for reflection radiation from the inside wall of the black pots and direct radiation from the sun to fall on the same spot on the trunk of some cuttings and cause sunburn. The sunburn top, measured from the bottom of the coke bottles, seems to be about the same height as the rims of the black pots. Note, the black pots are not perfect black bodies to have zero reflection radiation; they can reflect up to 20% of the radiation that falls on them. How then do we prevent this type of sunburn? The easiest way is to fill the black pots

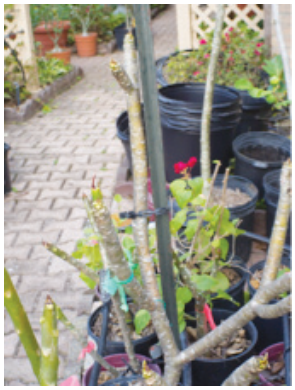
halfway with gravel or sand and sit the bottles on top of the gravel, so that the exposed trunk base of the cuttings is well above the rim of the black pots. This prevents reflection radiation from the inside pot wall falling on the trunk. Actually, reflection radiation from the inside pot wall will fall on the coke bottles and warm them up and will help the cuttings root faster. Note that the cuttings cannot get sunburned from reflection radiation from nearby cuttings because they all absorb sun radiation at the same rate and will all be at about the same temperature. Objects that are at the same temperature do not exchange heat radiation. Another way is to shield each cutting, up to about 1" above the rim of the black pots, with aluminum foil.

Lynnette Weiner of Placentia, California provided the next two pictures. This is an older





plumeria planted in a large pot. This plumeria was located in full sun. The soil line is about 6" below the rim of the pot. The plumeria plant is leaning and one of its branches is resting against the rim of the pot. The trunk got sunburned badly from the soil line to the top of the rim of the pot. The rest of the plant is free of sunburns. This sunburn is due to a combination of reflection radiation from the soil surface in front of the trunk and reflection radiation from the inside of the pot wall. This is why it got sunburned so badly. When the sun shines on this plant, radiation from the sun will reflect onto the trunk from the soil surface in front of the trunk. In addition, radiation will also reflect from the pot wall



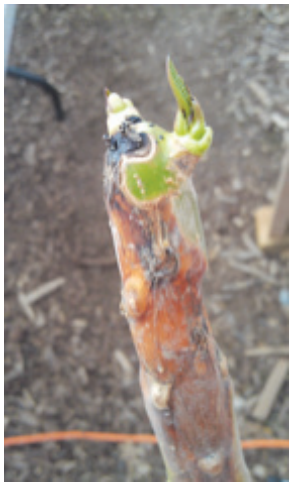
to the left of the trunk onto the same spot on the trunk. This is in addition to direct sun radiation that the trunk receives, especially in the tilted position. To avoid this sunburn, the plumeria needs to be repotted to the center of the pot and straightened so the trunk is in vertical orientation. In addition, more soil should be added to the pot to fill it close to the rim.

Another potential source of reflection radiation that could sunburn plumeria trunks are supporting posts. A round post radiates the heat outward and radiation will not fall on one spot on the trunk. Round posts are the best to use to support plumeria plants and cuttings. In the pictures below I supported a very large cutting being rooted by an existing "T" metal post. It was not long before the cutting started getting sunburned at a few spots. As the picture below shows, there is no sunburn till about 4" above the first joint. This is because the trunk, up to that point, is in front of the post and the reflection radiation off the post falls on the back of the trunk. Similarly, there is no sunburn on the top 4" of the cutting because that part is behind the post, and reflection radiation off the post cannot hit it. The rest of the trunk is getting sunburned. The picture faces south, so when the sun is in the south to west positions, reflection radiation off the inside face of the "T" will hit the sunburned area of the cutting that is also, at the same time, receiving direct radiation from the sun. The combination of the two causes the sunburn. The cutting was moved promptly, and the sunburn was avoided.

Cuttings and plumerias in greenhouses are much more vulnerable to getting sunburned than plants outside a greenhouse. What is it about greenhouses that causes this? Greenhouses trap heat inside and can reach much higher

temperature inside the greenhouse than ambient temperature. I have two unheated vegetable greenhouses. When the temperature outside is 80 degrees F and the doors and windows are closed, the inside temperature runs at about 115 degrees F. So you can easily get 35+ degrees rise inside the greenhouse during the day. Sunburn happens when the trunk surface temperature gets above a certain threshold value. Direct radiation from the sun will increase the trunk temperature by a certain amount. When the trunk temperature starts at 35+ F higher temperature, then direct radiation from the sun can easily exceed the threshold temperature above which plumerias get sunburned. The most tender part of the plumeria branches are the tips, which are much more vulnerable to sunburn than the trunks. As a result, upper tips of plants and cuttings can easily get sunburned in greenhouses. This could also happen in desert climates, when the ambient temperature in sunny locations could easily reach 110 degrees F.

Mike Atkinson of east San Diego County, California provided the following pictures. These two cuttings being rooted and one rooted plumeria



plant were inside a greenhouse. The top of the two cuttings and the top of the plumeria plant got severely sunburned. One important difference between these sunburns in greenhouses and sunburns at the bottom of trunks outside greenhouses is this: Sunburns in greenhouses are uniform whereas with sunburns on trunks the damage is worse in the middle area of the sunburn. The reason for this is that in greenhouses plumerias get sunburned by direct sun radiation alone, where the radiation on the plumeria plants is uniform throughout, resulting in uniform damage. Sunburning of the bottom of trunks is due to reflection radiation off the soil surface in combination with direct sunlight. Because of the counteracting effects of distance and angle of view on radiation, there exists a maximum in the radiation right in the middle of the sunburn. This is why the middle of the sunburn of trunks gets the most damage. Temperatures in greenhouses can be kept under control with a good size exhaust fan. However, most hobbyist greenhouses have exhaust fans that are smaller than required, and the greenhouse can easily get hot on hot days. Using shade material over the greenhouses with plumerias is good practice to prevent sunburns.

To prevent sunburning of trunks of cuttings or plants, we need to place a radiation shield that will cover the bottom of the cutting or plant. There is no need to cover the whole cutting. Covering the bottom 6" inches with an aluminum foil works well (see picture above). Aluminum foil has a total emissivity of about 0.09 and reflects just about all the radiation heat it receives from both the sun and the soil.

People have been covering the whole cutting with the paper cores of toilet paper or paper towels,

stacking multiple ones together (left picture below). One is more than enough to protect the bottom 6" inches (right picture below). Paper has a total emissivity of 0.93, which means it will absorb most of the radiation it receives. The surface will get hot. However, in order to sunburn the trunk the heat has to travel through the paper thickness by conduction and then be radiated from the inside surface of the paper core onto the trunk surface. As paper is a

very poor heat conductor, it will not transmit most of this heat through to the trunk inside. As a result, this works satisfactorily, but it is not as good as aluminum foil. In time it disintegrates by getting wet from rain. Using a translucent white plastic also works very well because it reflects most of the radiation heat it receives. Just tape it around the cutting with masking tape. Do not ever use a black material for a radiation shield because it soaks up all the radiation heat it receives and might cook the cutting inside.

Of course another way is not to place the cutting in direct sunlight. This is an option for hot climates, especially in desert areas. In cooler climates, the extra heat from the sun is very beneficial, and it is desirable to place the rooting cuttings in full sun. In such a case, it is good practice to protect the cuttings from radiation using a radiation shield.

What can we do with plumeria plants with sunburned trunks (they kind of look ugly)? Can we plant the plumeria deeper or add soil to the pot if possible in order to bury the sunburn? What would happen to the sunburn then? Laura Jones of Virginia provided the following pictures. This

plumeria was sunburned at the base of the trunk (back side of trunk was healthy). Laura added more soil to the pot and buried the sunburn. The picture to the left shows that the plant was vigorous and healthy, even though the base of the trunk was sunburned on one side. The picture to the right shows how the sunburn developed cracks and new roots started emerging from the healthy bark above the sunburn, in mid-air.

In time, these roots above the sunburn developed into healthy and vigorous primary roots.

The end result is a better plumeria with a more vigorous root system. This example shows that not only is it OK to bury sunburns of trunks in the soil, but it's also desirable both for aesthetics and for the health of the plant.

Concluding, the most common area plumeria plants and cuttings get sunburned is the bottom of the trunk next to the soil line. This type of sunburn is caused by reflection of radiation from the soil surface in front of the trunk, which gets very hot by direct radiation from the sun. In addition, plumeria plants and cuttings can get sunburned higher up on the trunk from reflection radiation from nearby

objects (walls, pot walls, posts, etc.). Plumeria bark gets sunburned when a certain threshold temperature is exceeded. In most areas, this can only happen when reflection radiation combines with direct sun radiation (both fall on the same spot). Reflection radiation does not have enough intensity to sunburn plumerias on its own due to the relatively low temperature of the reflecting object. On the other hand, direct sun radiation by itself is not enough either in most areas to exceed the threshold temperature and sunburn plumerias. However, in greenhouses and extreme desert areas, temperatures can reach well over 110 degrees F. As a result, radiation from the sun alone can easily exceed the threshold temperature and sunburn the tips of cuttings and plants (tips are the most sensitive part of the plants and cuttings).

Things to do in order to prevent sunburning of cuttings and plumeria plants:

1. Cover the bottom 6" inches of each cutting or plant trunk with a low total emissivity material such as aluminum foil or white translucent plastic. Cardboard cylinders (from toilet paper or paper towels) also work satisfactorily. High emissivity materials (anything black or grey) should be avoided because they soak up most of the radiation from both the sun and the soil and could end up cooking the bottom of the cutting.
2. Root cuttings in semi-shade if possible. Avoid direct sun, especially in desert areas and in greenhouses.
3. If rooting cuttings in full sun, make sure to protect them with aluminum foil radiation shields.
4. In hot climates, cover greenhouses with shade cloth to protect plants and cuttings.
5. Place plants and cuttings at least 12" away from other objects.
6. Fill pots close to the rim. Leaving a lot of pot wall exposed to the sun is very likely to reflect radiation onto the trunk and could result in sunburning the trunk.
7. Plant plumerias and cuttings in the center of the pot. Do not lean them against the pot wall.
8. Use round stakes to support plumerias and cuttings. Posts with flat surfaces could result in sunburns.

Angus Selection #3 (left) and *JL Hawaiian Coral* (right)
(photos courtesy of Diem Nguyen)

The PSA thanks the Southern California Plumeria Society for the use of their photo of *Desert Sunrise* here and in the March 2014 issue of *Plumeria Potpourri*.

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 — 2014

January 14 ..... meeting

March 11 ..... meeting

May 13 ..... meeting

June 14 ..... Show & Sale I (Seabrook/Clear Lake)

July 8 ..... meeting

July 26 ..Show & Sale II (Fort Bend County Fairgrounds)

October 14 ..... meeting

October 18 ..... Fall Social and Luau

- Currently, meetings are held at the Metropolitan Multi-Service Center, 1475 West Gray, Houston, TX 77019. 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.

The Plumeria Society of America, Inc.
P.O. Box 22791
Houston, TX 77227-2791, USA
Dues are $25 per year

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

PSA Officers/Committee Members—2014

Bob Arend *President*	arendbob@gmail.com *936-321-5151*
Jerry Hurlbert *Vice President*	newfloral@swbell.net
David Holloway *Secretary*	d-holloway@sbcglobal,net *281-251-1478*
Virginia McClosky *Treasurer*	v.mcclosky@yahoo.com *713-449-6424*
Eulas Stafford *Registration*	estafford01@att.net *713-946-9175*
Karen Babb *Director*	kbabb4@comcast.net *713-721-4197*
Milton Pierson *Webmaster*	miltonp@mac.com *713-728-2413*
Loretta O'Steen *Director*	LoFresh@aol.com *409-939-4765*
Vicki Jenkins *Director*	LovePlumeria@aol.com
Liz Dethloff *Membership*	edethloff7@gmail.com *713-459-9462*
George Hadjigeorge *Research*	ghadjigeorge@comcast.net *281-265-5945*
Diego and Vicky Tristan *Social*	vtristan60@sbcglobal.net *713-433-0310*
Trish Weeks *Publicity*	marinertw@comcast.net
German Collazos *Plant Sales*	german.collazos@tic.toshiba.com *713-896-5500 x2539*
Irene Jones *Newsletter*	ijplume@sbcglobal.net *760-436-6885*

New PSA Registrations

Beacon Lights **registered by Hetty Ford**

Vivace **registered by Hetty Ford**

Coral Coast Kaleidoscope
registered by Paula V. Pugh Schipp

Sugar Plum Fairy **registered by Hetty Ford**

Coral Coast Karen Mallard
registered by Paula V. Pugh Schipp

Coral Coast Lazy Susan
registered by Paula V. Pugh Schipp

New PSA Registrations

A Kai Hana **registered by Tom S. Yamada**

Herzog's Carnival **registered by Joy and Carl Herzog**

Gold Star **registered by Joy and Carl Herzog**

Autumn Sunrise
registered by Joy and Carl Herzog

Herzog's Butterscotch
registered by Joy and Carl Herzog