Plumeria Potpourri

The Plumeria Society of America, Inc.

Come to the March meeting!

Date and Time: *March 11, 2014, 7:30 p.m.*

Location: *Metropolitan Multi-Service Center*
1475 West Gray, Houston, Texas

Anyone with an interest in plumeria is invited to attend!

Speaker: Virginia McClosky

Q&A Panel: Readying Plumerias for Spring and Summer

In this issue ...

March 2014

President's Corner

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

Hello, I'm Bob Arend, the new president of The Plumeria Society of America. I want to introduce myself to y'all. I have been a member of the PSA for three years—during that time I have volunteered at all the plant sales, worked at the George R. Brown Home & Garden shows, and helped at all our meetings. I have not held an elected office until now, and I'm a little overwhelmed, but already have had a large number of PSA members come to my aid to help me. I have a full slate of officers and directors, and they are very helpful. I would like to hear constructive recommendations from the PSA members about speakers for our meetings and other activities in which the PSA might enjoy participating. Please don't hesitate to contact me either by email or phone.

I want to give an update about our website. It is still not up and running, but we are working on it and making progress. We have a new webmaster and a committee working on the website, and hope to have it operational soon.

Your PSA membership renewal date is above your name on the mailing label. The cost is $25.00 a year and can be mailed to The Plumeria Society of America, P.O. Box 22791, Houston, Texas 77227-2791.

The March 11, 2014 meeting will feature Virginia McClosky speaking on interior plants. Virginia owned The Interior Gardener, Inc. for 30 years. Virginia designed, installed, and guaranteed replacement maintenance for interior plants in offices, lobbies, hospitals, and restaurants. Virginia was also responsible for training the technicians who took care of these plants.

Also at the meeting there will be a three or four person panel to answer questions about getting plumerias ready to bring out for the spring and summer season. They will try to answer any questions people have about their plumerias. Please join us for the March meeting at the Metropolitan Multi-Service Center, 1475 West Gray, Houston, Texas.

We have an additional activity in the month of March. The Texas Home & Garden Show will be held at the George R. Brown Convention Center on the weekend of March 28th, 29th, and 30th. Besides the many private sellers, we will have a display booth staffed with PSA members who will provide information about plumerias, and we will be selling plumeria cuttings. We are still looking for volunteers to sign up to work the booth on these days. We have both morning and afternoon schedules available. You can sign up at the March meeting or email me if you are interested in volunteering.

Other events that we all look forward to are the yard tours throughout the summer and fall. Yard tours are a great way to learn from others about their experiences for the care of their plumerias. We are looking for interested parties who would like to hold yard tours. Please contact me by email or phone if you would like to hold a yard tour so we can get you on the calendar.

The current address for PSA meetings is
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.

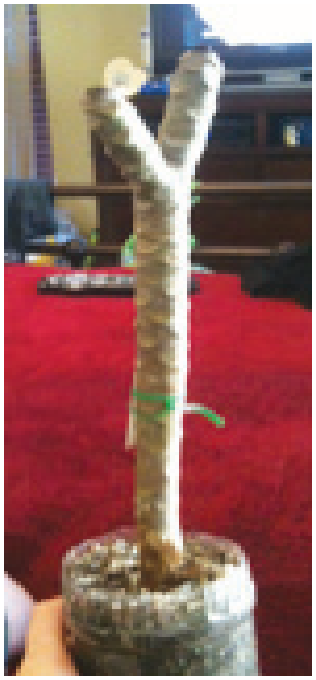
Preventing Sunburn—Part 2

by **George Hadjigeorge, Texas**

In part 1 of this article, I explained how heat radiation works. I discussed all the important aspects of radiation that are relevant in sunburning of plumerias. In part 2, I will show how and why plumerias get sunburned at the bottom of the trunk.

The most common area plumeria plants and cuttings get sunburned is at the bottom of the trunk, just above the soil line. That spot is by far the most vulnerable part of the trunk to sunburning, and there is a good reason for it. 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 temperatures on the trunk. Sunburn occurs when the surface temperature of the trunk area gets above a certain threshold limit.

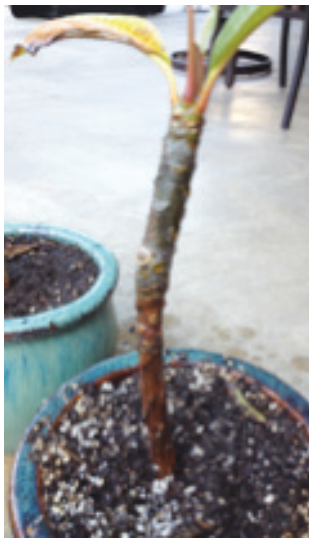
Let us look at some examples of sunburning. The picture below shows one of my cuttings in Sugar Land, Texas. It got slightly sunburned for the bottom 2" of the trunk. The rest of the cutting did not get sunburned. Actually, the bottom 3/8" next to the soil did not get sunburned.



Delton Haverkamp of Los Angeles, California provided the picture to the right. The cutting got sunburned for the bottom 1" of the trunk next to the soil line.

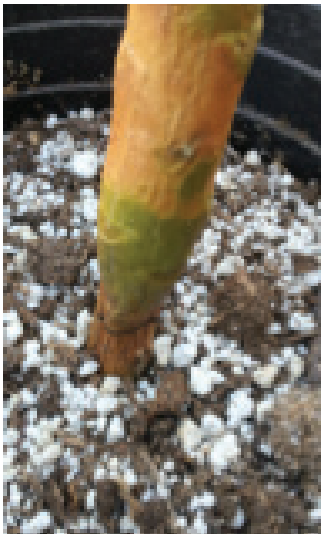
Jennifer Jandley of Austin, Texas provided the picture below. This was a cutting being rooted and the sunburn happened right above the soil line for a length of about 2". The sunburn on this cutting is very severe as the diameter at the sunburn area collapsed. The top of the cutting was intact.

Lynnette Weiner of Placentia, California provided the picture to the right. This was a growing plumeria plant in a 2-gallon container that got sunburned at the base of the trunk above the soil line for about 4".



Mike Atkinson of east San Diego County, California provided the picture to the left. This plumeria was sunburned at the base of the trunk above the soil line for about 1". This sunburn is also very severe.

Bill C. of Chandler, Arizona provided the picture on the following page. This was a cutting being rooted next to a wall. It has two different sunburns: a) the bottom 1" of the trunk next to the

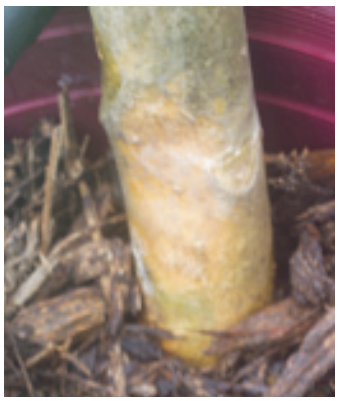


soil line; and b) the upper part of the trunk starting at about 4" above the soil line. There is a 3" long section of trunk between the two sunburns that did not get sunburned. The bottom sunburn is due to reflection radiation from the soil. The top sunburn cannot be from reflection radiation from the soil because reflection radiation at that distance is insignificant due to the Inverse Square Law for radiation. The top sunburn is due to reflection radiation from the wall. The bottom sunburn is very severe—the trunk diameter really shrunk.

As these typical examples show, most plants and cuttings get sunburned on the lower trunk next to the soil line for typically about 1" to 2", and sometimes up to 4" in length. It appears that the most severe sunburns happen in inland hot and dry climates (Arizona, central Texas, east San Diego County). These examples also show that the most severe damage to the trunk happens at the middle of the sunburned section of the trunk, which is ½" to 2" off the soil line.

Let us now analyze why the plumeria trunk gets sunburned this way and what is causing it. It is clear from these pictures that there are no objects next to the trunk within 3"–4" of the trunk. The only thing that is there is soil. The soil surface is exposed to the sun and gets hot because soil absorbs about 80% of the radiation that falls on it. The soil gets hotter than the trunk because it absorbs more radiation from the sun (higher emissivity). Once this happens it starts radiating heat onto the trunk. Because the amount of radiation declines fast with increasing distance, sun burning of the trunk is limited to the bottom few inches, and definitely less than 4" of the trunk. Per Inverse Square law for radiation, the highest amount of reflected radiation should fall on the trunk at the soil line; thus, the most severe damage to the trunk should be at the soil line and not ½" to 2" higher up as the pictures show. Why does this happen?

The picture below show a cutting that was lightly sunburned (it was moved after the sunburn was noticed). Note how a band about 3/8" wide around the soil line is green and not sunburned. Then the next 1.5" is sunburned, and none of the cutting's surface above is sunburned.



According to the Inverse Square Law for radiation, most of the damage should be at the lowest distance, or at the soil line. The reason the most severe sunburn is slightly above the soil line is because of the angle of view between the two objects (cutting surface and soil surface) is also an important variable and plays a major role. At the soil line, the angle between the trunk and the soil surface is 180 degrees, which means the soil surface has no view of the cutting at the soil line. Therefore, no reflection radiation from the soil surface can reach the cutting's surface at the soil line. This is why the cutting does not get badly sunburned at or near the soil line. As the angle becomes steeper with higher elevation, more and more reflection radiation can reach the trunk because the soil surface gets a better view of the trunk's surface. The angle effect causes the reflection radiation that reaches the trunk's surface to initially rise sharply and then slow down and level off at higher elevations. On the other hand, the distance effect causes the reflection radiation that reaches the trunk's surface to drop sharply with

increasing elevation. As the angle decreases with higher elevation, the amount of reflection radiation that can reach the trunk's surface increases sharply but at the same time, the increased distance reduces the amount of reflection radiation that reaches the trunk's surface. As a result of the counteracting effects of angle and distance, there exists a maximum in the reflection radiation at some distance off the soil line but close to the soil line. This is very difficult to calculate. However, sunburned cuttings suffer the most damage at about 0.5" to 2" off the soil line. This means that the maximum in reflection radiation occurs at about 0.5" to 2" off the soil line. This maximum in reflection radiation can shift position somewhat depending on the texture of the soil surface. Note that the direct radiation that falls on the trunk from the sun is uniform throughout the trunk and cannot sunburn a spot on the trunk more than the rest of the trunk.

Can we prevent sunburning of the trunk if we mulch the soil around the cutting? The answer is no because wood has about the same total emissivity as soil. As a result, the mulch surface will also get very hot and radiate heat onto the cutting.

What about placing potted cuttings onto a large concrete surface (driveway, swimming pool deck, etc.)? Would that lead to sunburning of the cuttings? The answer is no because the cutting's surface is more than four inches away from the concrete surface due to the pot height and the amount of reflection radiation the cutting will receive from the concrete surface is negligible.

Why then do some cuttings get sunburn while others do not? The cutting is getting hot by direct radiation from both the sun and reflection radiation from the soil surface (the two are additive), but at the same time the cutting is getting cooler by convection with wind drafts. Also, some cuttings get shaded for part of the day by trees/structures (which cools them off somewhat). Thus, conditions must just be right for a cutting to get sunburned.

Can a cutting ever get sunburned higher than a few inches from the soil line? The answer is yes if the cutting is placed close to another object that can soak up radiation from the sun and then radiate it onto the cutting. This is the subject of part #3 of this article. So place the cuttings in the sun in open areas, away from other objects.

Cuttings with no roots and young plants with undeveloped root systems are especially susceptible to sunburning. This is because they cannot replenish fast enough moisture lost by evaporation from the skin and leaves, if they have leaves. In addition, they have a relatively thin and green bark that can sunburn more easily than mature bark.

Concluding, sunburning of the bottom trunk section of cuttings and plumeria plants is caused by reflection radiation from the soil surface around the trunk, which gets very hot by direct radiation from the sun. This is the most prevalent type of sunburning of plumerias because the sun hits the trunk at the same time that it hits the soil surface in front of the trunk. The direct radiation from the sun and the reflection radiation off the soil surface hit the same spot on the trunk; the two become additive, causing high temperatures and sunburning of the trunk near the soil line. The trunk does not get sunburned higher up because of the effect of the Inverse Square Law for radiation. Direct sunlight by itself is rarely sufficient to sunburn plumerias on its own (except in desert areas and in greenhouses). On the other hand, reflection radiation by itself cannot sunburn plumeria trunks because the radiation intensity is relatively low due to the low temperatures involved. Sunburning can occur only when direct sunlight hits the same trunk area as reflection radiation and the two become additive. In part #3 of this article we will look at examples of sunburning by reflection radiation from nearby objects (besides the soil surface), and I will show ways to prevent sunburning of cuttings and plants.

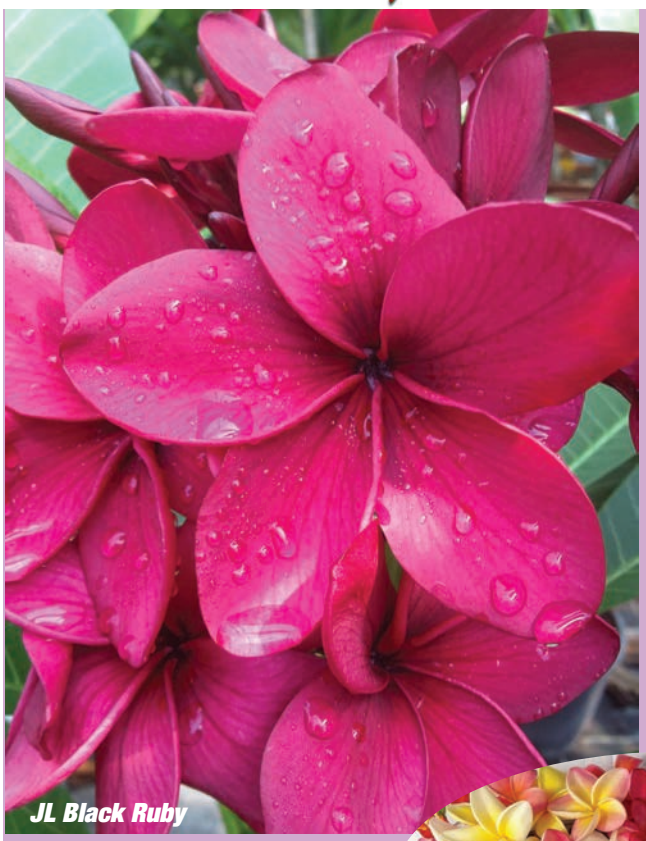
Plumeria in Italy

Giampietro Petiet and his wife Laura Viglianisi live in Italy. They grow and sell plumeria and hibiscus to the European market through Sun Island Nursery. They currently have over 2,000 varieties of plumeria.


Maggie

Photos by
Giampietro Petiet
Italy

Sun Island Nursery



JL Black Ruby

Hawaiian Embers

Orange Splendor

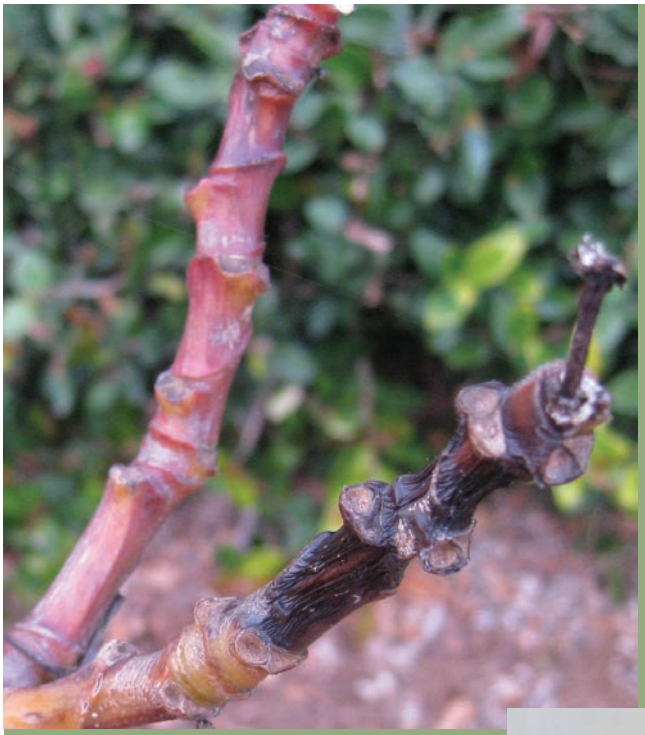
Moragne 23

Overwintering Inflos and Seedpods

by Irene Jones, Southern California

An inflo from the previous summer reblooming in winter

An inflorescence from the previous summer which will rebloom the following summer—it is beginning to form flower buds in winter



Inflos from the previous summer starting to rot in winter ... these need to be removed from the plant as rot could travel down into the branch

A rotting inflorescence from the previous summer which needs to be removed to prevent rotting down into the branch

Overwintering double seedpods on Sorbet Ripple

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

TBD ..... 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.

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JL Ken Ames


Hanalei Pink


Salmon Brown


George Brown aka Musk Rainbow


Butterfly Gold


Choko Delight


JJ Cote d'Or


Samirie

Photos by David Mora
Alta Loma, California


JJ Purple Jack