

Plumeria Potpourri

The Plumeria Society of America



May 7th Meeting

Tuesday, May 7, 2019, 7:00 p.m.

Cherie Flores Garden Pavilion, 1500 Hermann Drive, Houston, Texas

... anyone with an interest in plumeria is invited to attend ...

Speaker: Emerson Willis

Title: A Salute to Sergeant Guillot

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President's Corner

by Ray Allison (RayAllison@GaryGreene.com)

With plumeria beginning to leaf out and inflos peaking, the spring growing season we love is here.

Emerson Willis, a plumeria gentleman and Lifetime Member of the PSA, will be our speaker for the May 7th meeting. Emerson will take us into the PSA history files as he speaks about another plumeria gentleman and Lifetime Member of the PSA, his dear friend, Bud Guillot, now 97, living in Huntington Beach, California.

We will hear about many things: Bud's early years in Paris, Texas; his bombing missions in a B-24 during World War II and time spent as a POW in Stalag 17; a 60-year old plumeria tree in Bud's front yard, originally found for 99 cents as a green paraffin-covered stick in a war surplus store; and five registered plumeria—'Guillot's Sunset,' 'California Sally,' 'San Miguel,' 'Saigon Moon,' and 'Makaha Sunn.' For those of us not aware of this wonderful plumeria history, Emerson's presentation will be one to remember.

For our July meeting, our speaker will be the head horticulturist from the Houston Botanic Garden.

By popular request, we will continue producing and emailing a low-resolution electronic version of our print newsletter. If we don't have a good email address for you, please let us know. We will continue



Emerson Willis and Bud Guillot

A Salute to Sergeant Guillot

One plumeria gentleman and Lifetime PSA Member, Emerson Willis, will talk about another plumeria gentleman and Lifetime PSA Member—his dear friend, Bud Guillot.

to publish and mail the print newsletter.

As plumeria wake up and bloom, this is also a popular time of year to renew your PSA membership—remember, you can always go to our website to renew.

Stay tuned for 2019—more fun to come as we celebrate the 40th anniversary of The Plumeria Society of America.

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Each year in February there is a plant society appreciation week—members get a 15% discount.

2019 Houston Area Plant Sale Calendar

Clear Lake Sale (1st sale)

April 30 Commitment to sell at Clear Lake
May 7 Sellers' meeting after the general meeting
May 29 Cultivar list for Clear Lake sale
June 8 Sale at Clear Lake

Clear Lake Sale (2nd sale)

July 2 Commitment to sell at Clear Lake
July 9 Sellers' meeting after the general meeting
July 10 Cultivar list for Clear Lake sale
July 20 Sale at Clear Lake

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Part 2: Making the Most Out of Slow Release Fertilizers

by George Hadjigeorge, Texas

How about larger pots? I measured the soil temperature 1.5" below the surface and 6" below the soil surface in the center of the pot, away from the wall. For a 35-gallon pot with ambient temperature of 87° F. and lower night time temperature of 75° F. the soil temperature was:

- In the shade all day—84° F. at 1.5", and 80° F. at 6" below the soil surface.
- Semi-shade all day—94° F. at 1.5", and 84° F. at 6" below the soil surface.
- In sun most of the day—100° F. at 1.5", and 90° F. at 6" below the soil surface.
- For a black 3-gallon pot in the sun—100° F. at -1.5", and 94° F. at -6" from soil surface.
- For a 10-gallon pot in full sun—102° F. at -1.5", and 95° F. at -6" from soil surface.
- For a 30-gallon pot in full sun—100° F. at -1.5", 94° F. at -3", and 86° F. at -6" below the soil surface.

In other words, larger pots did not get as hot as smaller pots. Their temperature was limited to a maximum of about 100° F. at 1.5" below the soil line. The temperature of the soil was significantly lower deeper into the pot. At 6" below the soil line, the soil temperature was about 10° F. lower because the heat had to travel down there by conduction through the soil from the soil surface and from the pot wall.

This means if the slow release fertilizer is mixed with the soil during re-potting rather than being spread at the soil surface and covered with mulch, it will last about one month longer.

How does the temperature of a large pot vary as a function of time during the day (so we can calculate the average temperature of the pot)? These measurements were made May 30th with a low ambient temperature of 78° F. and a high ambient temperature of 92° F.

Time of the Day	Ambient temperature ° F.	Soil temperature in full sun @ 1.5", ° F.	Soil temperature in shade @ 6", ° F.
7 a.m.	78° F.	78° F.	78° F.
8:30 a.m.	80° F.	86° F.	79° F.
10:30 a.m.	84° F.	92° F.	82° F.
1 p.m.	92° F.	100° F.	92° F.
3 p.m.	92° F.	100° F.	92° F.
5 p.m.	92° F.	100° F.	92° F.

These data show some interesting trends:

- At night the soil temperature went down to the lower ambient temperature. Typically, in the summer in the Texas Gulf Coast this is about 80° F.
- As soon as the sun rose and the rays hit the pots, the soil temperature rose quickly above ambient temperature by absorption of radiation from the sun. Eventually the soil reached 100° F., which dropped lower after the sun went down.
- The temperature of the soil in pots in the shade, which were not exposed to sunlight, stayed at about ambient temperature during the day, which was about 8° F. cooler than pots in full sun.

I made a lot of temperature measurements during July and August, and they all showed the same thing. Larger pots did not get as hot as one-gallon pots—the soil temperature was limited to 100° F. at 1.5" below the soil line. Shading large pots was a good thing and reduced the soil temperature by about 8° F. So, at 1.5" below the soil line, the average temperature of large pots in full sun during the summer was about 90° F. (100° F. during the day and 80° F. during the night), which reduced the life of slow release fertilizers by about 2 months (20 degrees above the base of 70° F. and one month per ten degrees rate). If the pot was in the shade, the average soil temperature dropped significantly to an average of 86° F. (92° F. during the day and 80° F. at

night). Shade extended the life of slow release fertilizers by about half a month.

What about the temperature of the surface of the soil? That was very hard to measure with the probe because most of the probe tip was sitting in the air. However, we can get an idea from observations. Sand on the beach has the same total emissivity as mulch or soil at 0.8. Thus, the pot soil surface will absorb the same amount of radiation from the sun as sand on the beach. You know how hot the sand on the beach gets at 3:00 p.m.—you cannot walk on it bare footed. We are talking of a temperature of the order of 150° F. or higher. The soil surface temperature gets so high it often sunburns the base of the lower trunk of plumeria plants by reflecting radiation onto the trunk from the soil surface, which becomes additive with the sunlight that falls on the trunk. It takes very high soil surface temperature to cause sunburns. Note that for the soil surface to radiate heat onto the trunk it must be at higher temperature than the burned plumeria bark.

Slow release fertilizers, spread on the surface of the soil and not protected from the sun, will reach these same temperatures during the day. So, the average temperature of the fertilizer pellets will be at least 120° F. (140° F. during the day and 80° F. at night). This reduces the life of the fertilizer by a minimum of five months (50° F. above the base of 70° F. and one month per 10° F. rate!)

And this is just the effect of temperature on the expected life of the fertilizer. In addition to that we have the degradation of the polymer coating of the fertilizer by UV radiation from the sun. The point is, between the two effects, slow release fertilizers will not last long when exposed directly to the sun during the entire day. Their life will be just a few months at best. What is the point of using slow release fertilizers if you are not going to protect them from the sun? You might as well save your money and use regular balanced fertilizers with micro nutrients, which are about four times cheaper than slow release fertilizers.

As I explained above, the expected life of slow release fertilizers is greatly affected by soil temperature and exposure to the sun. What can we do to make the most of slow release fertilizers and make them last for the whole growing season?

The most important thing we can do is to protect slow release fertilizers from exposure to the sun. This can be accomplished easily by covering the fertilizer with 2–4" of mulch. Hardwood mulch packs and works the best. In addition to protecting the slow release fertilizer from the sun, the mulch also keeps the roots cool, it prevent weeds, and keeps things like perlite from floating during watering. Mulch is good for both plants planted in the ground and for plants grown in pots. In pots that are not re-potted in the spring, slow release fertilizer can be spread on the surface of the soil mix according to the manufacturer's recommended amount. It is best to use a gardening tool to work the fertilizer into the soil. The deeper it is worked into the soil, the cooler it will be in hot weather, and the longer it will last.

The pots are then covered with a few inches of hardwood mulch. Cypress mulch also works and it has an attractive appearance.

The second thing we can do is to shade the pot surface, if possible. One way to do this is to plant other plants in the same pot, such as periwinkles and petunias.

Petunias and periwinkles thrive in the plumeria pots and give a lot of color early in the season when plumerias are coming out of dormancy and are not blooming yet. However, there is one major



disadvantage. Petunias and periwinkles are heavy feeders and their roots will fill large pots. They suck all the

nutrients out of the soil and the plumerias suffer. The plumerias do not compete very well for the available nutrients. As a result, they do not grow or bloom as well as other

plumerias that grow by themselves in a pot. I used to do this years ago, but I do not do it anymore.

Another way to shade plumeria pots is to group them together with other plants. This large plumeria was growing in a 35-gallon pot and was surrounded by bougainvilleas for shade and added color when the plumeria was not blooming.



Another way to shade the plumeria pots is to alternate tall plumerias and short bougainvilleas (in separate pots). The bougainvilleas are kept low and bloom nicely most of the year and shade the plumeria pots. They add a lot of color all year. Another advantage is that the alternating bougainvillea pots give space for the plumerias to spread.



If the plumeria plants are dug up every year and stored in winter storage without the pot, then there are more options. Since the soil temperature is cooler deeper in the pot and slow release fertilizers will last longer at cooler temperatures, it is best to mix the slow release fertilizer with the soil that will be used to fill the space around the root ball of the plant. Unlike conventional fertilizers, slow release fertilizers will not burn the roots of plumerias when in direct contact with them because they have a polymer shell. Slow release fertilizer can be mixed with the soil in a tub that will be used to fill the space around the root ball of the plant. Some of the slow release fertilizer can also be mixed with the soil in the pot before the plumeria plant is placed into the pot. This is better than sprinkling the fertilizer over the top of the soil surface (the fertilizer will last longer due to cooler temperatures). In addition, the feeder roots seek out the slow release fertilizer

pellets and will distribute well throughout the pot. If the fertilizer is spread at the soil surface there will be a high concentration of feeder roots at the surface, which makes it hard to dig out the plant for winter storage.

What about smaller plants in one and two gallon pots? What can be done about those? These are more difficult to deal with because small pots get so hot (120° F. with direct sun exposure of the pot, and 110° F. in groups of pots in the sun). The life of the fertilizer is reduced by three months due to the high temperatures. I would start by using only 8–9 month slow release fertilizer to assure the fertilizer will last for the growing season. Mixing the fertilizer with the potting soil or spreading it at the surface of the soil and covering it with mulch will make little difference for one-gallon pots because they get so hot. Do whatever is convenient for you.

I would also group the one-gallon pots together in multiple rows, one pot touching the other so that the leaves shade the soil surface for most of the day. I would also place the pots in semi shade if possible to keep them cooler.



Small pots facing west have a serious problem. The one-gallon pots get way too hot in full sun. What I do is to put a row of 3-gallon or 5-gallon pots on



the west side and place all the 1-gallon pots east of them (pool side is west). This way the western sun does not hit the wall of the

one-gallon pots and get them too hot. The bigger pots only get to 100° F. when the sun hits their wall (much higher surface to volume ratio than the one-gallon pots). The row of larger pots protects the one-gallon pots from overheating in the sun.

The soil in pots gets heated mainly by

absorption of radiation from the sun. Ambient temperature has little effect. The longer the exposure of the pot to the sun, the faster the soil temperature will rise, until it reaches some maximum. I measured the soil temperature during the summer months for various size pots with a temperature probe. The center of a one-gallon pot in full sun will reach 120° F. in less than ten minutes. The temperatures of one-gallon pots grouped together in full sun also gets very hot—about 106–115° F. These high temperatures in one-gallon pots reduce the life of slow release fertilizers by about three months! For this reason, I would not use 3–4 months and 5–6 months slow release fertilizers in one-gallon pots. It will not last and will act just like normal fertilizer. I would only use 8–9 months release time for one-gallon and two-gallon pots. I would also group small pots together and hide them behind larger pots to keep the sun from shining on their wall and getting them very hot. I would also place small pots in semi-shade if possible.

Larger pots 3+ gallons got hot but not as hot as one-gallon pots. I measured a maximum of about 100° F. at 1.5" below the soil line, independent of ambient temperature. At 6" the soil temperature was about 8° F. cooler than at 1.5" below the soil line. The soil in pots in full shade remained relatively cool, at about ambient temperature. The life of slow release fertilizers in larger pots, protected by a few inches of mulch, was reduced by about two months. The fertilizer's life was reduced by about one and a half months when mixing the slow release fertilizer with the soil when potting the plumeria. So, mixing the slow release fertilizer with the soil mix is better than spreading it on the surface of the soil and covering it with mulch. By shading the pots, the life of a slow release fertilizer was only reduced by one month rather than by two months in full sun.

The plumeria growing season starts in April (the plants are dormant in March) and we do not want to fertilize the plants past August. If they grow late in the season, they will have tender tips that can get

damaged by frost and can be easily infected with stem rot in winter storage. So we want the fertilizer to release for 5–6 months. Since high soil temperatures reduce the expected life of slow release fertilizers by about two months, I would not use anything else but the 8–9 months version of the fertilizer for large pots. The 5–6 months version of slow release fertilizers will run out of juice before the end of the season.

The bottom line is anything you do to keep the soil temperature lower will minimize the temperature effect and not reduce the expected life of slow release fertilizers by as much. The worst thing you can do is to spread the slow release fertilizer on the soil surface and leave it as is and not protect it from the sun. The fertilizer pellets can reach temperatures of 150° F.+ in full sun, which will shorten their expected life by about five months! You must protect the slow release fertilizer from the sun by spreading mulch over it or it will only last a few months. If you are going to do that you might as well use regular fertilizer, which is about four times cheaper. It does not cost much to use a few inches of mulch over the fertilizer to protect it from the sun.

One thing you have to watch for is storms with heavy rainfall, like Hurricane Harvey. We got 52" of rain in Sugar Land, Texas over one week. That much rain leaches a lot of fertilizer out of the pots (slow release fertilizers release every time they get wet). I fertilized all my plants after Hurricane Harvey with a light dose of conventional 10-10-10 N-P-K fertilizer to make up for the effect of Hurricane Harvey on the slow release fertilizer.



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Sun, Sand, and the Sea

by Emerson Willis, Texas

Almost like clockwork since 1994, every winter Nan and I have rolled out in our motorhome for the Florida Keys, visiting friends along the way.

In the early years, I would carry a few plumeria cuttings and Jim Little's cultivar list to give away. As my garden grew (as you know they can) I began carrying one-gallon rooted plants to give away.

Over the years, storms now and then would knock down more than a few of my plantings. Our little 4-wheel drive "toad" car has pulled up its share of plumerias which couldn't be righted by hand.

We have always camped in Marathon which is in the Middle Keys, half way between Key Largo and



Key West. This area received most, but not all, of my plantings. Over the years it was spared the

wrath of the more deadly storms. Then came September 2017 when Hurricane Irma came calling. Homes, boats, and trees of all sizes were blown over and many were blown away! A sample story: I planted a one-gallon 'Nebel's Gold' for a lady across the canal from our park ten or twelve years ago. I really never knew she cared very much about the tree until it disappeared ... literally. Surprisingly, she called me wanting another plumeria shortly after our arrival last year, but this time she wanted a red plumeria. Her 'Wildfire' had to wait a year.

Jim Little taught me years ago salt water and plumerias do not get along. I did not understand for a long time what had slowly killed two of my beauties on Highway US-1—a very large 'Kauka Wilder' at Taco Bell and a 'Jeannie' at Wendy's. I'm sorry for showing more grief for plants than people's homes. I suppose some of this is because I can't do anything

about their homes, but I can and will replace some of these plumerias.

In the middle of our Florida trips, Nancy and I take Caribbean cruises. On several of our voyages, I carried 18" single-tip cuttings with no roots, scrubbed clean, and tightly wrapped, snuggled in the bottom of our carry-on luggage.



Ashore while speaking with some of the locals, I interviewed them for "plumeria-hood"—allowing



many cuttings to be passed up to the interviewee's grandmothers for rooting. I do like grandmothers ... in fact I'm married to one. Handy with plants she is.

It is our usual schedule after returning from Florida to bring out our collection, pot cuttings, and prepare to head west to celebrate Bud Guillot's birthday. This year I had a bright idea—postpone our visit until after the PSA's plant sales and go late July or August so we may tour a few gardens in Southern California. Bud agrees.

I would like to close this article by expressing my most heartfelt thanks to the officers and chairpersons, both past and present of the PSA, without whom there would not be a PSA. And thanks also to the general membership—local, national, and all over the world. I am very happy and proud to be associated with you as we share the love and beauty of our bewitching blooms.

The *Plumeria*

Part 7: *Plumeria obtusa*

by Donald R. Hodel

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This seventh installment of the series presents and discusses *Plumeria obtusa*, commonly known as the Singapore plumeria.

4. *Plumeria obtusa* (*obtusa* = blunt or rounded, likely alluding to the leaf tip).

Linnaeus (1753) named and described *Plumeria obtusa* in his monumental work, *Species Plantarum*, basing it on descriptions and illustrations that earlier workers had published. Dandy (1958) selected a Sloane illustration, which Linnaeus had noted, to serve as the type specimen for this species. The second most commonly cultivated frangipani after *P. rubra*, *P. obtusa* is known for its attractive, durable, dark glossy green leaves with typically rounded tips, mostly evergreen habit, and white, fragrant flowers. The description is from Criley (2005), Leeuwenberg (2005), Woodson (1938a, b), Zarucchi (2019), and cultivated plants.

Habit: shrub or small tree, mostly evergreen but semi-evergreen in dry areas, to 25 feet tall and wide, vase-shaped, upright, densely branched, old trees with a spreading, more or less flat-topped or slightly rounded canopy (Fig. 1).



Fig. 1: *Plumeria obtusa* is a small to medium, vase-shaped, mostly evergreen tree. Honolulu, Hawaii.

Trunk: to 8 inches diameter; bark smooth and purplish brown-gray when young, becoming tan to

brownish gray, corky, and with warty or knobby protuberances with age; young twigs 0.5–0.75 inch diameter, with numerous, prominent, semi-circular leaf scars.

Leaves: spirally arranged; petioles 0.4–1.8 inches long; blades 1.4–9 inches long, .08–3.25 inches wide, variable in shape, typically narrowly obovate to narrowly oblong or obovate-oblong (Fig. 2), glossy green to dark green above, pale below, typically without hairs or sometimes with short, soft hairs, more or less thick and leathery, apex rounded or truncate, sometimes with an abrupt, short point or even slightly notched (Fig. 2), lateral nerves conspicuous, nearly perpendicular to midrib to slightly ascending, straight, slightly impressed, their ends co-joined to form a well-developed marginal nerve.



Fig. 2: Leaves of *Plumeria obtusa* are variable in shape, typically narrowly obovate to narrowly oblong or obovate-oblong with a rounded or truncate tip, sometimes with an abrupt, short point or even slightly notched. National Botanical Garden, Havana, Cuba.

Flowers: arranged in a compact, congested, subumbellate cluster of 8–25 flowers (Fig. 3); peduncles 2.4–4.8 inches long, without or sometimes with hairs, secondary peduncles shorter; individual flowers to 3.25 inches long; pedicels 0.25–0.4 inch long; in bud petal margins

longitudinal or only slightly spiral; calyx lobes ovate to subtriangular, 0.04–0.06 inch long, tips rounded to truncate, without or sometimes with hairs; corolla trumpet-shaped, tubular at base, tube 0.35–0.8 inch long, 0.04–0.06 inch wide uniformly throughout, abruptly flared distally with overlapping obovate to oblong lobes 0.6–1.8 inches long, white except for yellow dot or “eye” at base of lobes, very fragrant; stamens 5, inserted near base of corolla tube; pistil composed of 2 separate ovaries with a single, short style.



Fig. 3: Flowers of *Plumeria obtusa* are white with a yellow center. In habitat, Sierra de Nipe, Cuba.

Fruit: 2 pods (follicles) 2.5–10 inches long, 0.4–0.8 inch wide (Fig. 4), brown, long-pointed, wide-spreading, joined at base.



Fig. 4: Here is one of the fruit follicles of *Plumeria obtusa*. Note the brown color, pointed end, and the seeds. In habitat, Sierra de Nipe, Cuba.

Distribution: Greater Antilles (Bahamas, Cuba, Jamaica, Haiti, Dominican Republic, Puerto Rico) with incursions into Mexico (Yucatan), Belize, Honduras (Swan Islands), and perhaps Key West, Florida in the United States. Widely cultivated in tropical and subtropical regions worldwide.

Ecology: *Plumeria obtusa* mostly occurs from nearly sea level in dry coastal forests, often on limestone, to about 1,200 feet elevation on serpentine granitic soils and rocks (Fig. 5).



Fig. 5: This *Plumeria obtusa* with a thrifty canopy after the dry season, occurs on serpentine rocks. In habitat, Sierra de Nipe, Cuba.

Common Names: Singapore plumeria, frangipani, plumeria.

Notes: *Plumeria obtusa* has a long history of cultivation. Its well-known common name, Singapore plumeria, originated in Hawaii in the 1930s and is attributed to Dr. Harold L. Lyon, famous botanist known for introducing 1,000s of trees to the Islands for reforestation, who returned to Hawaii in 1931 with the original plant that he had obtained in the Singapore Botanical Gardens.

What we know in cultivation as *Plumeria obtusa* might not be pure and could already be hybridized; most of its wild counterparts, for example in Cuba, have leaves that are glossy green but not so dark green as one finds on cultivated plants (see Hodel 2017 for numerous photos of leaves and flowers of *P. obtusa* in the wild). Perhaps the dark green color is the result of hybridization with other species, likely *P. rubra* (Fig. 6).

An unusually variable species, *Plumeria obtusa* typically has 20 to 30 synonyms (validly published names originally thought to be distinct from but now recognized as the same as *P. obtusa*) listed for it on



Fig. 6: What we know and recognize as *Plumeria obtusa* in cultivation often might actually be a hybrid. Garden of Linda and Eileen Ohara, Carson, California.

the various on-line plant indexes (Tropicos, International Plant Names Index, The Plant List, World Checklist of Selected Plant Families). Some of these synonyms include *P. bahamensis*, *P. clusioides*, *P. cubensis*, *P. jamaicensis*, *P. nipensis*, *P. portoricensis*, and *P. sericifolia*. They were originally separated from *P. obtusa* based on leaf blade shape and degree of hairiness of leaves and inflorescences, all extremely variable characters of little or no taxonomic value. A good, modern taxonomic study based on molecular data will likely be needed to resolve and confirm *P. obtusa* and its synonyms.

A combination of characteristics distinguishes *Plumeria obtusa*, including its conspicuous, mostly evergreen habit; subumbellate inflorescences; flowers in bud with petal margins longitudinal or only scarcely spiral; trumpet-shaped flowers with the diameter of the corolla tubes uniform throughout; leaves with a distinct petiole; leaf blades glossy green to dark green, obovate to obovate-oblong, more or less leathery; and leaf blade lateral nerves co-joined at their tips to form a well-developed marginal nerve.

Flowering peaks during the warm season, even in tropical areas where *Plumeria obtusa* tends to flower year-round. Flowers are not as long lasting and turn brown and fall more quickly than those of other species (Criley 2005), mostly limiting their use to landscape subjects.

Because of its evergreen habit and handsome,

glossy green leaves, *Plumeria obtusa* has been used in hybridization, mostly with red and yellow forms of *P. rubra*. The resulting hybrids are mostly smaller or even dwarf, compact, and evergreen, with leaves like those of *P. obtusa* only smaller, and smaller white, pink, red, or yellow flowers (Criley 2005). These smaller, compact plants with attractive foliage and flowers make outstanding potted subjects (Fig. 7).



Fig. 7: Known hybrids of *Plumeria obtusa* are mostly smaller or even dwarf, compact, and evergreen, with leaves like those of *P. obtusa* only smaller, and make outstanding potted subjects. *P. obtusa* 'Richard Criley', garden of Clare La Puma Corré, Camarillo, California.

In dry areas or if unirrigated, *Plumeria obtusa* tends to drop about half the leaves in its canopy, and is considered semi-evergreen; however, in wetter areas or if irrigated regularly, it remains fully evergreen. In non-tropical, marginal growth areas like southern California, *P. obtusa* will retain its leaves through winter although they tend to discolor somewhat, mostly with reddish spots caused by

prolonged, cool winter and spring nights (Fig. 8). Near-freezing temperatures will kill leaves of *P. obtusa* and temperatures much below freezing will kill twigs and stems.



Fig. 8: Cool damage from the prolonged, cool, winter-night temperatures in the middle to high 30s F. caused the red spots to occur on the leaves of this *Plumeria obtusa* 'Dwarf Pink.' The marginal yellowing is leafhopper burn (see Hodel et al. 2017). Monterey Park, California.

NEXT: *Plumeria pudica*

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<http://www.thePlumeriasociety.org>

Our new website is easier to navigate and to find information about plumeria care, cultivar registration, society news, events, and much more! Since the website is new, please check for updates and to see added features such as the flower identification database and a members only newsletter archive! Below is the current MEMBERS ONLY login and password information that will be needed to access the website's newsletter archive.

Log in: **psamember** Password: **Scottpratt93**

Twitter feed: **@Plumeriasociety**



Joining the PSA ...

www.theplumeriasociety.org

Click on "Join the PSA" tab at the top of the home page.

To join by mail, select PDF.

To join online, select Online Form (Paypal).

When joining by mail, send a check to:

The Plumeria Society of America, Inc.

P.O. Box 22791

Houston TX 77227-2791, USA

Dues are \$35 per year

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.

When does your PSA membership expire?

Your newsletter envelope mailing label has your membership expiration date.

2019 PSA Calendar

January 15meeting
March 12meeting
May 7meeting
June 8 (Bay Area Community Center
Seabrook/Clear Lake)..... Show & Sale I
July 9meeting
July 20 (Bay Area Community Center
Seabrook/Clear Lake).....Show & Sale 2
October 8Fall Luau Social (potluck) & meeting

- Meetings are held at Cherie Flores Garden Pavilion, 1500 Hermann Drive, Houston, Texas.
- Meetings begin at 7:00 p.m. You're welcome to come 30–45 minutes before the meeting for snacks and chat.
- We have a raffle, guest speakers, and more.
- Non-members are always welcome!
- Join us to learn about plumeria care and collecting.
- Bring plants, cuttings, etc. for door prizes! These can be anything, not just plumerias.

2019 PSA Officers and Directors

Ray Allison <i>President</i>	RayAllison@GaryGreene.com 832-689-9938
Fred Yoder <i>Vice President</i>	Yoderma@sbcglobal.net 281-630-7577
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