



NEWSLETTER

JUNE 1987

**TAMPA BAY CHAPTER of the
RARE FRUIT COUNCIL INTERNATIONAL, Inc.**

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(INCLUDING RENEWALS)

MEETINGS ARE HELD THE SECOND SUNDAY OF THE MONTH AT 2:00 P.M.

NEXT MEETINGJUNE 14, 1987

MEETING PLACE.COMMUNITY ROOM UNDER WEST RAMP, TAMPA BAY
CENTER SHOPPING MALL, BUFFALO & HIMES AVES.,
NEXT TO TAMPA STADIUM. (TAKE DALE MABRY TO
BUFFALO AVE., AT STADIUM.)

PROGRAM.PROPAGATION OF EXOTIC FRUIT TREES BY CRAFTON
CLIFT. Some of our members will remember Crafton
from the programs he provided several years ago. Crafton was horticulturist and con-
sultant with the RFCI from 1978 - 1983. He was chairman of the Plant Names Committee.
He laid out the arrangement for over 5,000 plants, grouped according to families, for
the RFCI tree sales and coordinated the RFCI USDA project at Homestead. Crafton Clift
has spend considerable time exploring for fruiting plants. He and Mr. Henry Dawes,
another RFCI member, made a trip to Columbia some time back, where they set up an
indoor-outdoor mist system nursery and gathered plants under the auspices of the
Executive Service Corporation. Although Crafton Clift is now working with a commercial
horticultural company, he has kindly consented to meet with us again and do this program.
Bring magnifying glass and tweezers. We will be examining the interior pollinization
function of flowers.

NEW MEMBER:

Mike Judd, 21623 Nesting Court, Lutz, FL 33549, 949-2066.

MESSAGE FROM THE PRESIDENT:

For those of you who missed the meeting at Seffner, you can go by there any time you
are in the vicinity and take a look at our plantings. We welcome donations of additional
trees, and advice on the care of those we have. Thanks to Armando Mendez for his recent
donation of six bananas.

Think about growing some plants for our annual plant sale in October. Fruit trees,
herbs, and unusual vegetables will be sold.

Many thanks to Gene Joyner for an excellent program. As usual, we all gained much
practical knowledge from Gene's presentation.

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The Fifth International Rare Fruit Seminar will be held Friday through Sunday, July 24-26,
at the Redlands Fruit & Spice Park, in conjunction with the Park's Tropical Fruit Fiesta.
This double event makes another field trip to Homestead seem like a great idea. If
you're interested, sign up at the next meeting.

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There may still be space to join Tom Economou and Gene Joyner on their Guatemala Fruit
Safari, July 17-23, for only \$425.00. If you're interested, call Tom at (305) 285-7173.

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INSECTS & DISEASES OF FRUIT TREES by Gene Joyner

This is a topic of vital importance to us who are attempting to grow more and more fruit trees in our yards. People who have maybe one or two fruit trees are not bothered much by diseases and insect pests but as you increase the number of fruiting trees in your yard, you also draw insects and diseases in ever-increasing numbers. When we look at the chemicals that are available for use on tropical fruit, we find that there are very few that can still be legally used on tropical fruit trees. Actually, all the chemicals for use on ornamentals and the common fruit trees could be used on tropical and exotic fruit trees but it is technically illegal to use chemicals on fruiting trees that are not listed on the labels.

Gene began his talk with the subject of insects and proceeded to diseases and to other pests that are not actually diseases nor insects.

We first looked at sucking insects which may be divided into several groups, one of the most common of which is the aphid. Aphids are very small, pinhead sized, sucking insects and are most prevalent in the spring and early summer. They come in different colors, gray, black, dark green, brown, yellow or even blue, depending on the species. Aphids reproduce very quickly. Females actually give birth to live young, in lieu of laying eggs as most insects do, and the population develops very rapidly. They are usually found on new growth, stems, buds and flowers. Fortunately, there are a lot of natural controls for aphids. Anything bigger than an aphid will probably eat them, the larvae of the ladybug being one of the most common predators. The main damage caused by aphids is a curling of the leaf but normally they do no permanent damage to the plant unless they are an exceptionally large population.

Another sucking pest we see in large quantities is the white fly which has three peak generations per year; early spring, early summer around June and a final peak around September, in the fall. The adults are very small, about the size of a gnat. They lay eggs on the underside of soft tissue. The juvenile white fly is semi-transparent, usually yellow and does not move about. They look like a scale on the underside of leaves and they suck the plant juices, and give off a sweet honey dew that collects on the leaves and causes more problems.

Another class of sucking insects is the scales that can cause a lot of problems because most people do not diagnose scales as being a real problem, or danger. As adults they remain in one position and do not move about because of the protective shell which may be either soft or hard and covers the entire insect. They can infest leaves, stems and even sometimes the fruit. Scales are opportunists and will congregate along the most succulent parts of the leaf, like at the stem and veins where the juices are flowing easier. Scales are also capable of very rapid reproduction; females may lay up to 400 eggs. Most scales give off a sweet honey dew like liquid which ants are fond of and the ants in turn protect the scale from predators.

Snow scale is pure white and can coat stems and sometimes an entire leaf. It is not a threat to large trees but small trees under perhaps 1/2" in diameter where there are large infestations can be killed. It is a small scale but large infestations can completely coat the plant and make it look like it has been whitewashed.

False oleander scale is found most often on oleanders but it is also prevalent on many tropical fruits, bananas, avocados, mangoes. The females are tear-drop shaped with a dark spot. They can also build up very rapidly into large populations and while they do not kill plants, they do cause a premature dropping of leaves and defoliation which can severely stress a plant where populations are high.

The largest scale pest is the cottony cushion scale which is as much as 1/2" in diameter. It is very devastating when they occur in large numbers. Since an adult female can lay up to 400 eggs, they reproduce very fast and the population can explode on plants.

Mealy bugs are another big group of pests. They are particularly a problem on indoor plants, potted plants and patio gardens. They have a very characteristic body shape, sometimes with long tails but sometimes without them, but they all manufacture this white waxy material in which they hide and lay their eggs. So even after you eradicate them, you have this white residue all over the plants that must be removed, either with a strong spray of water or with a soft cloth. Mealy bugs have considerable mobility and can move from one part of a plant to another or to other plants in the general area. Also in container-grown plants, they will attack any exposed root system. In small plants a large infestation will frequently kill the plant.

Another pest, not an insect but a relative of the spider, is the spider mite. They have eight legs like spiders and spin webs like spiders but are not actually spiders. Mites are usually most prevalent in the dry season, mid-spring and early summer. In heavy infestations you may notice a washed-out or stippled affect on the leaves, sometimes involving the whole leaf. It might resemble a nutritional deficiency but the pattern is very random instead of symmetrical as in iron and magnesium deficiencies. Mites are very tiny and difficult to see without magnification. However, if you shake an infected leaf onto a sheet of paper, one might see the tiny mites crawling about. Sometimes you can see a webbing between leaves and very close observation will show the mites. In this case, wind may spread the infestation to other plants. Mites reproduce very rapidly under ideal conditions of temperature and humidity as they go from egg to adult in 7 days. Each adult female can lay over 300 eggs, so you can see how rapidly an infestation might spread from a few individuals to hundreds in a few days.

The biggest group of pests we have to worry about, though, are the chewing insects because they actually consume the plant material. With sucking insects the plant is still intact although malformed; however, with chewing pests, they may consume the entire plant.

Caterpillars are a big group among chewing insects and are of great concern. They are the juvenile stages of moths and butterflies and generally have a cycle of from 3 to 8 weeks in the caterpillar stage. But within that period of time, because of their rapid growth, they can consume large amounts of foliage.

The wooly bear is a rather nondescript caterpillar, very beautiful, black with orange markings, up to about 1-3/4" in length. This is one that feeds on anonas, sugar apples, atemoyas, custard apples, etc. In the summer months, they can be quite prolific and overnight virtually can strip a plant.

Another caterpillar which we have to be particularly careful of is the saddleback caterpillar. It is colored black with a yellow saddleback and spots and covered with poisonous spines which break off when touched and can cause a very painful sting. They are relatively rare but usually occur in groups, so if you find one, look around for others.

Most caterpillars do not have this stinging ability so many rely on protective coloring and camouflage, or mimicry for protection.

The orange belt caterpillar is found not only on citrus but on white sapotes and other citrus relatives. It is provided protection by looking like a bird dropping which causes most predators to give it a wide berth. It can sit out there all day happily eating orange leaves without any fear of being eaten because nothing wants to get near it. It also has two scent glands behind its head which will give off a foul odor if it's irritated or disturbed. This effectively adds to the camouflage. They get up to 2" in length at maturity but, as ugly as it is, it pupates into a very beautiful black and yellow butterfly, about 4" across. You may see these butterflies fluttering around your trees. They lay a single egg on the ends of the branches on the new leaves and these hatch out into the caterpillar.

Another chewing pest is the leopard grasshopper which normally hatches out in March or April and matures into an orange and yellow grasshopper as much as 3" long. They hatch out in rather large numbers and they are seen in early spring as small black grasshoppers covering small plants and weeds. They scatter when disturbed and head in every direction and in a couple of months produce the adult grasshopper. A few of these can do a lot of damage so it is recommended that they be caught and killed. The female lays her eggs in the ground in the fall and the eggs hatch out in the spring as little grasshoppers.

Another plant eating grasshopper is the katydid but this one is seldom seen except at night because the katydid is a night feeder. They often do a lot of damage that is blamed on grasshoppers and other chewing insects. They have a flattened body, pale green and may be up to 3" in length. In the daytime they are hidden among the leaves, very still and are well camouflaged so that you may not even know they are there.

Another group of chewing insects are beetles and there are more different types and species of beetles than all the other insects combined; we have literally hundreds of types here in Florida. Some beetles are very specific as to what they eat, some will only consume leaves, some flowers, some fruit, some bore into stems and branches. But some will eat almost anything that's edible. The majority of beetles are night feeders, hiding from predators during the day and coming out at night to feed. Most beetles are also good fliers and can travel a considerable distance to desirable feeding sites, which makes control somewhat difficult.

A major pest for papayas is the papaya fly, sometimes called the papaya wasp, although it is a member of the fly family. This insect is rather large and has a long ovipositor up to an inch in length which it inserts into the papaya all the way into the seed cavity where it deposits its eggs. In order to reach the seed cavity the fly has to approach the papaya fruit when it is very small. The only way to prevent destruction of the papaya where the papaya fly is in abundance is to bag the fruit as soon as it is pollinated. In cold winters, the papaya fly is killed off in the winter and only after a series of mild winters is the papaya fly a real problem. Eggs hatch within the papaya into maggots which eat the fruit from the inside before it ever reaches maturity.

A similar pest is the Caribbean Fruit Fly. Unlike the papaya fly, it infects over 100 different fruit; loquats, surinam cherries, guavas, peaches and several others. It has even been found in Mexican avocados which have a thin skin. The female lays her eggs and in a few days they hatch into larvae, tiny maggots which eat the fruit and develop into approximately 1/4" long white maggot looking larvae which then pupate into the adult fly. In this process, of course, the fruit is completely destroyed. The adult fly is slightly smaller than a normal house fly, has mottled wings, and is usually seen on the fruit.

Another pest in the garden, which although it doesn't damage plants as a rule, can be a pest to people, is the ant. Of course, the only one that really causes a problem is the imported fire ant.

Sometimes we also have problems with snails. There are two basic types, the spiral type and the flat type. These kind of snails are not normally a problem unless they occur in tremendous numbers, which is very rare.

The first cousin of snails, the slug, however, can be a real problem, and we certainly need to keep them under control. They are similar to snails except that they do not have shells. They hide during the daytime under moist leaves and mulches or in moist soil and at night they come out to consume the tender tissues of plants. They get to be about 2" long and can do considerable damage. They eat flowers, flower buds and even developing fruit and they can play havoc with seed trays or flats with young seedlings. There are a number of baits and poisons for snails and slugs in the garden stores.

Most of the insects that we've seen can be controlled with general purpose sprays, Malathion and Diazanone. Sprays labelled for ornamentals may not be labeled for fruit crops but they still do the job on insects. For mites we have products like the insecticidal soaps. One may use Kelthane soap for chewing insects. Sevin is also an excellent product. Thuricide is probably the best thing we have for caterpillars; it's also non-toxic for people and doesn't contaminate plants.

In addition to insects, we also have to be concerned with plant diseases. For diseases to develop, we need three things: one is a susceptible host plant, second is a pathogen which is what causes the infection, fungus, bacteria, a virus or certain other things, third is the proper environment, the proper temperature range, the moisture range or humidity. Many of the diseases on tropical fruit affect the foliage and these are lumped together and called leaf spots. There are many different types of diseases which can cause leaf spots, either fungus or bacteria. Leaf spots will generally have a dead center area surrounded by a discolored area which can be any number of colors depending upon the particular fungus, and which gradually radiates out to more healthy tissue. The spots will penetrate entirely through the leaf and frequently leave a hole in the center.

One particular disease is fig rust, which we probably have all cursed because it is so difficult to control. It is something that we probably have to live with on figs but it does cause dying of the leaves and some defoliation and often a reduction in yield. Fig rust normally shows up later in the summer when we have higher temperatures and more rainfall. Copper seems to be the most effective control but is certainly not completely effective even when sprayed twice a week. Blackberries, raspberries and other such cane crops are susceptible to anthracnose fungus which can be very bad and can cause very rapid defoliation in the summer. If it develops before the berries mature it can also affect the size and quantity of the berries.

Fire blight is another problem, particularly on loquats. It also affects apples & pears. It is a bacterial disease that affects a number of different plants. When fire blight affects a plant, it looks like limbs have been burned. The ends of the branches die and turn black and withered. The only cure is surgery, a good pair of shears, cutting off the damaged branches far below the apparent damaged area and then spraying with copper or agrimycin, an antibiotic type product. If a tree gets fire blight, it will spread through the tree very rapidly if it's not contained. Of course the trimmed off material needs to be destroyed or put in a garbage can. There is also a virus disease that affects papayas. When the tree is infected, the new growth develops a strange shape, very deformed and the trunk and leaves become smaller and production of papayas ceases. The trunk gets smaller and smaller until it eventually stops growing altogether. The only control is to use a resistant variety because none of the virus diseases are controllable at this time.

Another disease that is prevalent on avocados is anthracnose. It is one of the limiting factors in avocado growing in certain tropical areas because it affects not only the leaf but also the flowers and fruit. It severely damages the plant and causes complete loss of fruit. Benlate, maneb and copper are the standard sprays for anthracnose on avocados, mangoes, grapes, etc. Avocado scab is another avocado disease that is prevalent on certain varieties of avocados such as the Lulu. It only affects the skin of the avocado, not the inside flesh, but it causes the fruit to look brown and scabby and is not commercially usable. For anthracnose & avocado scab the fruit should be sprayed when it is very tiny, shortly after fruit set, to prevent the fungus from causing damage.

Fruit split is another problem and is usually caused by a dry period followed by heavy rains. During the dry time the skin tends to harden and when the rains come, the inside of the fruit swells faster than the outside skin can grow, causing the skin to split.



May Plant Raffle

Plant	Donor	Winner
Watermelon (Charlee)	H. Seekins	Marian Zieg
Watermelon (Charlee)	H. Seekins	Paula Mims
Watermelon (Charlee) (2)	H. Seekins	Lloyd Shipley
Watermelon (Charlee)	H. Seekins	Walter Vines
Watermelon (Charlee)	H. Seekins	Harry Zieg
Watermelon (Charlee)	H. Seekins	Stark
Watermelon (Charlee) (2)	H. Seekins	Janet Conard
Bilbergia Pixie	E. Freedman	Walter Vines
Cherimoya	A. Mendez	P. Nelson
Monmoncillo	A. Mendez	Eliason
Stover Grape	RFCI	A. Mendez
Stover Grape	RFCI	L. Shipley
Naranjilla	Stark	Eliason
Naranjilla	Stark	Heath
Cactus	Walter Vines	A. Hendry
Cactus	Walter Vines	O. Delgado
Downy Myrtle	Heath	A. Mendez
Red Spanish Pineapple	Heath	A. Hendry
Sugar Apple	Heath	Marian Zieg
Yellow Guava	Heath	Harry Zieg

Hospitality Table

Pearl Nelson: Zucchini Bread with Pineapple and dates

Al Hendry: Pepino Dulce, Strawberries

Bea Seekins: Aloha Spread & Crackers, canned Guava shells, canned papaya

Felicia Mendez: Fruit Drink

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Recipe of the Month: Special Zucchini Bread (Pearl Nelson)

3 Eggs	1 3/4 cups sugar
1 cup oil	2 tsp baking soda
2 tsp vanilla	1 1/2 tsp cinnamon
2 cups shredded unpeeled zucchini	1 tsp salt
1 can 8 1/4 ozs crushed pineapple drained	3/4 tsp nutmeg
3 cups flour	1/4 tsp baking powder
	1 cup chopped pecans
	1 cup chopped dates

Beat eggs, oil, sugar, and vanilla until thick. Stir in other ingredients, mix well. Pour into 2 greased 9X5 loaf pans and bake at 350 degrees for 60 minutes.

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A note from member Robert Eliason: If there is a plant or plants that you are unable to find, write the common and scientific name(s) and bring them to the next meeting or mail to Robert Eliason, 6091 24 Ave. N., St. Petersburg, FL 33710. I am also interested in obtaining Bael Fruit.

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Gene Joyner has invited us to attend Palm Beach's Tropical Fruit Festival, to be held Sunday, June 28, 1987, from 1:00-5:00 P.M., at the Mounts Center, 531 N. Military Trail, West Palm Beach. If you've never been to the Center, it's well worth the trip at any time. The Festival makes it even more enticing.

Drill and dowel

A new grafting technique

Several years ago, Gary Meltzer of Los Altos, Calif., decided to do something about his lopsided Christmas tree. The tree's bare side was so obviously in need of a few branches that Gary put some on. He drilled a few holes in the trunk, sharpened the ends of some spare branches with a pencil sharpener and then "assembled" a well-balanced tree. The surprise came a month later. When the tree was being taken down, he noticed that the branches had grafted themselves on! The result was more unexpected than unreasonable, because what counts in grafting is the matching of cambium (growth) layers between the host tree and a compatible scion.

Ever since this experience, Gary has used this technique whenever the angle and position of a scion are important. The beauty of this method is that it holds the scions rigidly in place. As with good-quality furniture, instead of being glued and nailed together, the pieces are doweled. They get a perfect fit. Gary has experimented with reshaping drill bits to correspond to a pencil-point shape.

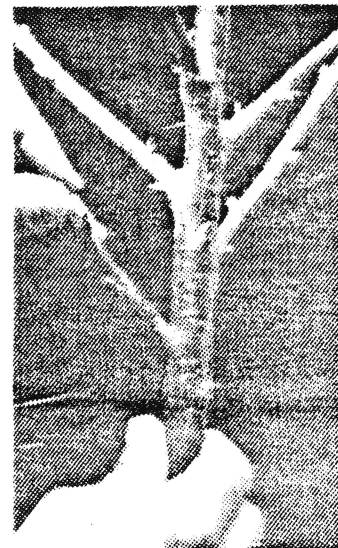
At about the same time, carpenter/gardener David Frybarger of Ben Lomond, Calif., independently took a similar approach. His new bare-root Asian pear tree had no branches at all. David had collected scions of other Asian pear varieties at a rare-fruit growers club meeting and knew just where he wanted them to grow on his tree. Since he also wanted them at a natural-looking angle, the traditional side graft (which results in a very steep angle) wasn't going to work. The carpenter in him had an idea: Why not make the scion into a dowel and drill a hole in the side of the host tree? He did, and it worked. His technique is a little simpler than Gary's because it requires no reshaping of the drill bit. It does leave a small gap in the tree at the end of the scion, but so far this has caused no ill effects.

Here's how David does it. He makes a fresh cut on the scion wood. Looking at the end of the scion, he selects a drill bit the same diameter as or slightly smaller than the woody portion of the scion (without the bark and cambium). After sterilizing the drill bit and a knife in hot water, he selects a site on the tree's trunk or on a branch.

To prevent the drill from "walking" down the tree, he makes a starter hole with a scratch awl. He begins drilling at a 90° angle to the host tree, then raises the drill to the desired angle. This also minimizes walking. Usually $\frac{1}{8}$ inch to $\frac{1}{2}$ inch is deep enough. If the scion is long, it requires a deeper hole so that a bird landing on the branch doesn't pull it out. Marking the desired depth on the drill bit with a piece of masking tape is also a good idea, to prevent accidentally drilling clear through the tree.

The freshly cut scion must be turned the right way: Buds should point outward from the grafting area. Using a very sharp knife—and without touching the fresh cut with his fingers—David carefully whittles the bark and cambium off the scion's end until it fits snugly in the hole. The proper fit is important. It should slip in and out fairly easily, but with enough friction to make a snug fit. This ensures ample cellular contact between the two sapwoods. As a result, the scion doesn't dry out too quickly.

It may take several tries—each time it means checking



Start graft by drilling one-half inch hole in trunk to receive scion. Tightly fit scion into hole. (Note: A pencil sharpener can be used to make a perfect tip.)

the angle at which bark and cambium are carved off—until there's good contact all around. When the fit is right, though, push the scion in firmly and paint the contact area with a tree sealant to keep air and insects out until healing is complete.

Gary's Christmas tree method has small advantages and disadvantages when compared with David's basic dowel approach. While it's true that Gary's method involves reshaping the bit, it also means that the size of the scion is not so critical, since the pencil sharpener and the bit generate identical sizes. Gary takes the smallest one in a set of spade—or paddle-shaped wood drill bits and grinds it down with a file until it matches the outline of a sharpened pencil. He uses the bit to drill a hole in the tree, and a pencil sharpener to shape the end of the scion. (The sharpener needs to be cleaned regularly of wet bark.)

If the scion is very small, Gary might leave the bark on the sharpened piece. As it's pushed into the hole, the bark is shoved back. Usually, he uses a scion bigger than the hole and trims the bark from the inserted end. As with the other method, a single ring of cambium contact results.

Why use this kind of graft? It's a natural for specific placement of limbs with bonsai. It allows branches of a pollinating variety to be grafted onto a fruit tree at an angle compatible with the other branches, and in any desired location. It makes possible a custom espalier: Scions can be in matched pairs, for instance, or at any angle. If a shade tree isn't doing a 360° job of casting shade, a branch can be placed where it's most needed to complete the canopy. Maybe there's a walnut tree with a weak crotch. Gary Meltzer had such a tree. He took an existing branch on one of the two main limbs and pushed its end into a hole he drilled in the other large limb. Then he cabled it together for one month. The resulting bridge graft prevented the tree from splitting.

Or maybe you have a lopsided Christmas tree...?

Article by Dian Duchin
Organic Gardening, January 1987

THE CREATURE FROM THE BLACK SAPOTE

One foggy boggy night in the swamps of Carambola,
Sat three fruit collectors, each upon their Acerola.
When there burst upon this tendril scene
A seedy creature, leafy and green.
Thorny stems, enough to kill ya
It was a giant Naranjilla.
And then it said, and here we quote he,
"I am the creature from the Black Sapote."
He tossed his fruit into the air,
And said, "Eat them, if you dare."
Two tried and died, but the third was greedy,
He ran away and saved all the seedy.
Now the world is plagued with the fruit from the Swampy.
Ain't it a shame, it wasn't a Wampee.

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