



NEWSLETTER

MARCH 1987

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

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(Including Renewals)

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

NEXT MEETING MARCH 8, 1987

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

PROGRAM "MAKING GRAFT IN HILLSBOROUGH COUNTY",
or "YOU BUD MY TREE & I'LL BUD YOURS".
But seriously, folks, some of our
expert members will be leading a
workshop in grafting and air layering.

NEW MEMBER:

Romeo and Jane Argo, 9012 Hickory Circle, Tampa FL 33615

* * *

HOSPITALITY TABLE:

Bea Seekins: Candied Kumquats
Will Unruh: Naranjillas
Alice M. Beasor: Kumquat Jam
Sandy Klaus: Apple Cake
Irene Rubenstein: Banana Nut Cake

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NOTE:

Dues are due this month: \$15.00 for 1 year.

If your dues have not been paid through March 1988, please pay the amount
shown in this box \$13.75 to keep your membership current. Some of

you have been delinquent for this past year. If you do not remit the boxed
amount by March 31, 1987, you will be eliminated from the mailing list
immediately. Mail your checks to the Newsletter address, made payable to The
Tampa Bay Chapter RFCI.

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CITRUS CANKER By Leon Hebb

Mr. Hebb has been intimately associated with the canker problem for the last two and a half years. Canker was first discovered in Florida in late August or early September 1984 in Avon Park at Wards Citrus Nursery, which is one of the largest citrus nurseries in Florida. It is one of the best managed and probably produces some of the highest quality citrus trees in the world. Where canker came from and why it showed up in this nursery is unknown. Those who are working in the citrus canker eradication program believe that citrus canker was already existing in other nurseries in central Florida. However, no one has been able to determine where it actually came from. What is even more difficult to explain is that the strain of canker found in Florida in 1984 does not match any of the known strains of canker throughout the world. This is amazing because you would expect the bacteria of citrus canker to have come from some place such as Argentina, Brazil, Japan, China or other areas where it is common. Some researchers suggested that this citrus canker called the "Nursery Strain" is a mutation derived from some other common form of the genus to which canker belongs, and that it spread from some other crop within central Florida. However, the evidence we have today does not prove this. Canker was not readily identified when it was found in Ward's Nursery. The infected trees displayed canker symptoms but this did not prove that it was canker. Only after researchers were able to inoculate citrus trees in a quarantined green house in Gainesville and reproduce the canker symptoms, were they able to positively identify it. This is still the procedure which is followed when canker is found in a nursery or on private property and this takes a lot of time, sometimes up to 3 or 4 weeks. Examining the plant is not sufficient. One may take non-pathogenic bacteria, inoculate it into a plant and very often cause a lesion which is difficult to differentiate from the canker lesion. Also there are very many other diseases that produce canker-like symptoms. One of the other amazing things is that the canker found on Anna Maria Island and St. Petersburg, at Manatee Fruit Co., and two other properties in Manatee County, is the canker "A Strain" which matches up exactly with the Asian variety. This is a more serious type as it infects a much wider range of citrus host plants, grapefruit, lemons, limes, citrons, a wide range of citrus. This was discovered September 20, 1984, and because of the extent of the spread it probably existed in the West Coast area for a year and a half to two years prior to that.

This epidemic of citrus canker is most serious in that it threatens up to 6 or 7 million door yard citrus trees, a 600,000 acre citrus industry worth a billion dollars a year and all the associated industry that serves the citrus industry, fertilizer, farm equipment, packing, shipping, etc. Citrus canker does not kill trees as is often reported but rather renders the tree unprofitable. They lose most of their leaves and a high percentage of fruit drops or is scarred so that it is not usable. This eliminates the ability of the citrus industry with canker to compete with the rest of the citrus industry in the world and, of course, a non-profitable business is a bankrupt business.

Ward's Nursery is in southeastern Polk County right in the heart of some of the best citrus land in Florida, on the eastern slope of the ridge. When citrus canker was found there, the nursery had to be quarantined. This nurseryman was one of the most cooperative with other nurserymen, helping to supply bud wood and seedlings and anything else he could do to help others. From Ward's Nursery exposed material went to other nurseries and contributed to the spread of canker.

The only previously known outbreak of citrus canker was first noted in 1910 or 1911. It is believed to have come in on trifoliata seedlings from the Orient, possibly thru Texas. It was first detected in the Florida Panhandle and from there spread throughout the state by citrus liners. By 1915 it had spread just about completely throughout the state wherever citrus was growing and it was identified at that time as a bacteria. Before that time, the state had no Department of Agriculture nor interest in plant diseases of any kind. Growers

banded together and began burning infected nursery stock to try to halt the spread of the disease. Eventually, maybe in 1916, the Florida Plant Board was born at the urging of citrus growers. It existed until about 1964 when it became the Division of Plant Industry, under the Florida Dept. of Agriculture. So the primary purpose of this division of the Dept. of Agriculture for which Dr. Hebb works was to fight citrus canker. But it took until 1929 to finally eradicate canker in the state of Florida. The last plant material destroyed was in Broward County, at a citrus nursery there. Between 1929 and 1984 no incidence of canker had been detected in the state of Florida. At present there is infestation in St. Petersburg, Anna Maria, Palmetto and just west of Oneco. Twenty-two nurseries have been found to have canker infestation at this time and just under 20 million nursery trees and grove trees have been destroyed. Only about 10 to 12 thousand grove trees are included in that number. The remainder are almost all nursery stock. Some indemnity was paid for destroyed nursery and grove trees until about this time last year but it has become impossible to carry out the eradication program if the State is burdened with paying for all the destroyed trees.

There are approximately 130 different properties on Anna Maria Island that had citrus trees infested with Canker A. These are mainly dooryard trees. The trees have been destroyed at this time but the infestation may remain on the grass, hedges and ornamental plants in the vicinity of the destroyed trees. All trees within 50 feet of the trees on which canker was found were hatracked. All foliage and small branches were removed, the ground was sprayed, every dead leaf and sprig and fruit was picked up and the grass was raked beneath the trees. All the material was hauled off carefully and burned or buried. Grass and foliage was sprayed with either copper or Agrimyacin wich is an agricultural form of streptomycin antibiotic. Copper and Agrimyacin are not bacteriacides of the canker bacteria, they are bacteria stats. In other words, they will hold it in a dormant condition without actually killing it. It is known that this bacteria can survive in leaf litter, decaying leaf matter up to 120 days and still be detectable. It can also survive on non-host plants such as ornamentals without showing the canker symptoms. At Ward's Nursery, the citrus canker was widespread when it was discovered. All the nursery plants that had been in existence for over 6 months were badly infected. Of course, it was immediately posted, no one was allowed in or out under a strict quarantine throughout the entire 60 acres of Ward's Nursery. They used a tomato vine burner equipped with propane burners which was drug as a sled over the trees to destroy some of the prettiest nursery stock you've ever seen. The burn took about three weeks, 24 hours a day, burning about 70 to 90 gallons of propane per hour. This was done with 21 permanent employees and 483 temporary, part-time employees. In other situations where they had much lower rates of innoculant, it was only necessary to remove the stock from the dirt and pile it in a pile where it could be burned. This involves a lot of labor, of course, but fortunately they were able to call on prison labor and at times, had as many as 400 prisoners at work making the piles of citrus trees in multiple locations.

There are many problems involved in carrying out the citrus canker eradication program. There are many inspections and they have to carry decontamination equipment with them at all times. If the trucks come in contact with infected trees, decontamination is necessary for all trucks, equipment, and personnel. The logistics sometimes are overwhelming. Sometimes it's very difficult to see the symptoms on the trees. If you are out looking at 500 trees a day driving through groves in a jeep, you'd be surprised how easy it is to miss the symptoms on the trees and when you do this day in and day out, it's hard to keep your attention span up and concentrate on each tree as you pass it.

A typical lesion can occur anywhere on the leaf. It may include the leaf surface and the mid vein if it occurs near the center of the leaf. Some other disease lesions will stop at the veins, but not canker. The lesions often have a kind of greasy look around them, wet looking or oily as the bacteria spreads out through the leaf tissue. The center of the lesion usually oozes the bacteria, which by

wind, rain or direct contact, may be spread very easily to other plants. Thorn scratches or other damage on the leaves are frequently an entering point for the bacteria. Swingle and grapefruit are both exceptionally good hosts for the citrus canker nursery strain. When the lesions form on the fruit, they start to destroy the tissue and the fruit falls from the tree. Frequently, the lesion looks like a peacock eye with a small brown spot in the middle and a bright yellow halo around it. This is not a foolproof indication of canker because other diseases can cause similar appearance. But it is suspect.

How is canker spread? It's probably spread by any way you can imagine. We frequently see cattle egrets in groves and although no one has ever proved that egrets can spread canker, it is doubtful anybody would say they couldn't. Any kind of birds that enter the grove, quail, doves, pigeons, blue jays, robins, you name it, rabbits, dogs, people, anything that comes in contact with the trees or the grass or soil underneath it, then moves on to another tree, has the potential to spread the canker, particularly if the trees are damp. But probably the commonest way for spreading canker is through wind-blown rain. It is believed that the hurricane that came through is one of the major sources of spreading canker throughout Manatee and Pinellas Counties. On Anna Maria Island, it is considered quite possible that the lawn care services spread the canker from yard to yard.

Decontamination. For decontamination we mostly use quaternary ammonia, which is non-ionic and not corrosive like hypochlorite bleach. Quaternary ammonias are used in operating rooms, cafeterias and restaurants for decontamination and sterilization. This is the disinfectant we use on our trucks, equipment and clothing, but for people we use a special compound which is ammonia with additives such as soap and other things to protect the skin. Even so, because of the frequency of decontamination (some people have to be decontaminated as much as 40 times in a day) there have been cases of rash, chapped hands and arms and sensitive skin from the decontaminations. Many of the big grove owners have installed wash stations where all vehicles entering or leaving their groves can be washed down underside and topside with automatic spray to prevent the bacteria being brought in or carried out. It's good insurance to keep their property from being infected.

Origin. There are several areas in the world where citrus canker is believed to have originated, or is known to exist. Reunion Island, 400 miles east of Madagascar, is a form of canker that matches almost identically with the canker "A" that we have in Florida. Brazil and Argentina have cankers A, B and C. "A" infects mandarins and most sweet oranges; "B" infects grapefruit; and "C" infects lemons. Brazil still has canker but they have it under control; it's not in the commercial areas. When they first discovered canker in Brazil, they burned every tree within five miles of the infected trees. They didn't fool around!

Information. 1-800-582-7161 is a toll free number you may call if you need information or if you suspect you have spotted a citrus infestation or if you have information bearing on the citrus canker eradication program. The number is still good and may be used for these purposes. During business hours, there is always somebody to talk to you; if it's after business hours, you can leave your number on a recording machine for the following day.

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RECIPE OF THE MONTH: Naturally Sweet Coffee Cake (Bea Seekins)

Beat 1 cup mashed banana and 1/2 cup butter. Add and beat in 3 eggs, 1 tsp vanilla, and 1 1/4 cup water. Add and beat in 3 cups flour, 1 tsp baking soda, and 2 tsp baking powder. Stir in 1 1/2 cup chopped dates. Spoon into a buttered and floured 9 x 13 pan. Combine 1/2 cup chopped dates, 1/2 cup nuts, and 1/2 cup flaked coconut and sprinkle over the top. Bake at 350 for 20 minutes. Cool and cut into bars.

ANNUAL ELECTION

In accordance with the bylaws of our Chapter, we will be electing Board members at our March meeting. We wish to request all members to make an attempt to be at the March meeting for this important event. The nominating committee, consisting of Celso Gomez-Sanchez, Kay Netscher and Bob Heath, has comprised a slate of members who are willing to serve on the Board for the coming year. At the March meeting, additional nominations from the floor will be accepted. If you are interested in becoming active in your club, please consider a nomination to the Board.

Proposed slate of Board of Directors is as follows:

Bruce Beasor
 Celso Gomez-Sanchez
 Bob Heath
 Armando Mendez
 Kay Netscher
 Arnold Stark
 Lillian Stark
 Walter Vines
 Al Hendry
 Bill Ryland

Februrary Plant Raffle

Plant	Donor	Winner
Sun red Nectarine	RFCI	Walter Vines
Peach	RFCI	Betty Dickson
Chayote (2)	Seekins	Heath
Chayote (2)	Seekins	Blanche Nati
Chayote (2)	Seekins	Nels Gullerud
Bunch Grape(Stover)	RFCI	Bob Hess
Bunch Grape(Stover)	RFCI	Nels Gullerud
Yellow Guava	Heath	Eliason
Grumichama	Heath	Shipley
Papaya	Beasor	J. Murrie
Carambola (5)	Beasor	Heath
Carambola (5)	Beasor	Al Hendry
Carambola (5)	Beasor	Murrie
Carambola (5)	Beasor	Eliason
Carambola (5)	Beasor	Lafacadio Hess
Carambola (5)	Beasor	Blanche Frati
Carambola (5)	Beasor	Wally Frati
Carambola (5)	Beasor	Wally Frati
Papaya	RFCI	Eliason
Jalapeno Pepper	H. Klaus	Al Hendry
Abaca Pineapple	A.Mendez	J. Murrie
Cherimoya	A.Mendez	Eliason
Rosemary	Betty Dickson	Stark
Rosemary	Betty Dickson	J. Murrie
Chayote (2)	Lloyd Shipley	Bruce Beasor
Chayote (2)	Lloyd Shipley	A. Mendez

A MESSAGE FROM THE PRESIDENT

We'd like to extend our thanks to Leon Hebb for his excellent and most informative program about citrus canker. I'm sure all who attended gained a new respect for the complexity and enormity of the problem. I don't know about anyone else, but the possibility of a tree having an asymptomatic infection will keep me from introducing new citrus trees into my yard for a while, in spite of any number of inspections they might have passed. We also have to give serious thought to including citrus in our next few tree sales. Such inclusion would be absolutely impossible unless we had ample assistance in handling the required paper work! Finally, I want to again remind all of our members, DO NOT BRING ANY CITRUS TREES, CUTTINGS, LEAVES, SEEDS, OR FRUIT TO ANY OF OUR MEETINGS!

As you know by now, our next meeting will be another grafting/air layering workshop. Several members have volunteered to share their expertise and guide the rest of us novices. We need your assistance to make this workshop a success. We need root stock plants. If you can bring some seedling loquats, avocados, carambolas, mangos, peaches or persimmons, please do so. We also need scion wood from named varieties of these same types of trees. If you have a favorite tree you'd like an air layer from, bring it along too.

The plans for our field trip are moving right along. I have made arrangements with Carl Campbell for us to have a guided tour of IFAS in Homestead, at 9:00 a.m. on Saturday, April 25. Following that, we have a tour of the Redlands Fruit and Spice Park, with Chris Rollins, at 1:00 p.m. If you wish to participate, and haven't yet signed up, please do so at this next meeting.

This is the last of these columns I will be writing for our newsletter. I'm not disappearing into the woodwork, but I do feel that after three years as president, it's time someone else took over this job. I want to thank all of you for your participation and support over the last three years. Do not forget that this next meeting we will hold elections, so please be there. WE NEED YOU. See you at the meeting.

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