



NEWSLETTER

MARCH 1983

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

EDITOR: Ray Thorndike NEWSLETTER MAIL ADDRESS: 3114 Troy Ave., Lakeland 33803

MEETINGS ARE HELD AT 2:00 PM ON THE SECOND SUNDAY OF THE MONTH.

NEXT MEETING ----- SUNDAY, MARCH 13, 1983 AT 2:00 PM

MEETING PLACE -- PLEASE NOTE! ----- NEW LOCATION! ----- TAMPA BAY CENTER
MALL COMMUNITY ROOM
BUFFALO & HIMES AVES.
NEXT TO TAMPA STADIUM

SEE DIRECTIONS ELSEWHERE IN NEWSLETTER

PROGRAM ----- "AVOCADO & DWARFING CITRUS ROOTSTOCKS"
by Major H.N. "NICK" Acrivos (Ret.)
Nick has been a frequent guest speaker
here and is very active in the Melbourne
club and the Brevard County Master
Gardeners program. He now resides in
Indiatlantic.

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## NEW MEMBERS

William Antozzi, Jr., 509 East Shore Drive, Oldsmar 33557, Tel. 855-1191

Mr. & Mrs. R.J. Cecelski, 11220 Eagle Hill Drive, Riverview 33569, Tel. 677-4091

Keith Norton, 825 Norton Road, Lakeland 33805, Tel. 858-1532

James G. Wilson, P.O. Box 2303, Winter Park 32790, Tel. (305)629-1500

## ADDRESS CHANGE

Bemis & Faye Gordon, 27410 Old Trilby Road, Brooksville 33512

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ELECTIONS

Elections for the 1983-1984 Executive Board of Directors will be held at the March 13th meeting. Immediately following the meeting, the newly elected directors will meet and select the new officers of the corporation as per the charter. Candidates selected by the Nominating Committee are listed below. Nominations from the floor prior to the election may be made.

CANDIDATES FOR THE BOARD

BRUCE BEASOR
JIM CALHOUN
JOE CONSTANTINE
BETTY DICKSON
TOM GOLDSWORTHY

BOB HEATH
KAY NETSCHER
IRENE RUBENSTEIN
PAUL RUBENSTEIN
RAY THORNDIKE

1983 NOMINATING COMMITTEE

BETTY DICKSON
LELAND TERRELL
RAY THORNDIKE

Committee Chair appointments for the 1983-1984 term have been made, also:

AUDITING -----	JOE FONTE	PLANT SALE -----	BOB HEATH/T. GOLDSWORTHY
BOOK SALES -----	MAJA BYVOET	SECURITY -----	?
BYLAWS -----	BOB HEATH	PLANTS -----	PAUL RUBENSTEIN
HISTORIAN -----	KAY NETSCHER	PUBLICITY -----	BETTY DICKSON
HOSPITALITY -----	CHRISTINE PRODANAS	PROGRAMS -----	RAY THORNDIKE
LIBRARY -----	KAY NETSCHER	PUBLICATIONS -----	RAY THORNDIKE
MEMBERSHIP -----	ARMANDO MENDEZ	RESEARCH -----	BOB HEATH
PLANT & SEED-----	ARNOLD STARK/ ROMAGENE VACCARO	SEFFNER PROJECT ---	BOB HEATH/ L. TERRELL
		TISSUE CULTURE ---	WALTER VINES

The term of office for the new Directors and Committee Chairs will run from April 1st to March 31st of 1984.

DUES

Jud Newcombe wishes to inform the following members that their memberships expire on March 31, 1983. To renew, either pay Jud at the next meeting or mail your check to: Membership Chairman, Tampa Bay Chapter, RFCI, P.O. Box 16003, Tampa, FL 33687. Make your check in the amount of \$13.00 and payable to TAMPA BAY CHAPTER, RFCI.

AMYOT	FELLOWS	HILL	MERRILL	PRODANAS	SMITH, C.
BEAUDOIN	FULMER	HUGHES	MORROW	REUTER	SNYDER
BYVOET	GOHEEN	JANKE	MYRIE	RIEGLER	STEVENS
CARRERAS	GOLBY	KERCHNER	NETSCHER	ROSE	SURI
CHEN	GOMEZ-SANCHEZ	KERSTING	NORTON	RUBENSTEIN	TAYNTOR
CLARK	GREENBERG	LEE, W.& C.	NEWCOMBE	RUSH	THORNDIKE
COTON	GORDON	LESTER	NGUYEN	RYLAND	VINES
DAWES	GRIFFITH	MACMANUS	OBREGON	SARRETT	VOSS
DEES	HARRIS	MARTIN	OLSZEWSKI	SCHAFFER	WARREN
DORADO	HARTMANN, P.	MEARES	OWENS, H.& L.	SCHWADERER	WEEKS
DUKE	HEATH	MENDEZ	PALMER	SEBRIGHT	WILKINSON
EVERETT	HENDRY	MERCER	PEARSON	SEEKINS	WILSON, J.& R.

REPORT OF FEBRUARY 13, 1983 MEETING

The meeting was called to order at 2:00 PM. New members, Rick Wilson, Allen & Dorothy Ebanks and Keith Norton were introduced and welcomed into our group. President Bob Heath announced that elections will be held next meeting and the next meeting will be held at the Tampa Bay Center Mall Community Room.

A sign-up sheet was passed around for our next workday at Seffner, February 26th, in order to finish the grape arbor and paths.

Jud Newcombe, as Auditor for the current fiscal year, announced that the books were in good condition through December 1982. Irene Rubenstein was given a thank-you for her work as Treasurer. Jud also stated that most memberships are due March 31st.

President Heath stated that more volunteers are needed for the Plant & Seed Committee headed by Romagene Vaccaro & Arnold Stark. The meeting was then closed and the Plant Drawing held.

SEFFNER PROJECT, THIRD WORK SESSION, JANUARY 22, 1983

A grape arbor was erected and more of the pathway completed plus clearing of the picnic area. Members contributing their services were: Bob & Terry Heath, Lillian Stark, Romagene Vaccaro, Armando Mendez and Ray Thorndike. We also had the help of one young lady in the county Master Gardener Program whose name we neglected to get.

FEBRUARY MEETING PLANT DRAWING RESULTS

<u>PLANT</u>	<u>DONOR</u>	<u>WINNER</u>
White Sapote	Bill Lester	Frank Galatocky
Blueberry	Bill Lester	R.S. Williams
Chaya	Bob Heath	Rick Wilson
Pear	Bob Heath	R.S. Williams
Mamonecillo	Armando Mendez	?
Ceriman	Armando Mendez	Bill Ryland
Sugar Cane	Armando Mendez	Glen Myrie
Tamarind	Armando Mendez	?
Loquat	Doris Lee	Glen Myrie
Seedling Guava (Mex.)	A. & L. Stark	Rita Galatocky
Seedling "Beaumont" Guava	Ray Thorndike	Gerry Amyot
Seedling Macadamia	Joe Constantine	Tom Patterson
Seedling Macadamia	Joe Constantine	George Merrill
Seedling Macadamia	Joe Constantine	Henry Stewart
Seedling Macadamia	Joe Constantine	Gary Staley
Chili Pepper	Gary Staley	Keith Norton
Tree Tomato	Gary Staley	Harold Seekins
Tree Tomato	Gary Staley	George Merrill
"Celeste" Fig cuttings	Betty Dickson	-----
Carissa	Betty Dickson	Keith Norton
Chayote	George Riegler	-----
"Black Mission" Fig cuttings	Christine Prodanas	-----
Miracle Fruit	Joe Constantine	R.S. Williams

Thanks also to Doris Lee for donating D. virginiana persimmon seeds.

More thanks to Christine Prodanas and to the Constantines for providing the very welcome and delicious refreshments. From Christine's kitchen and garden there were Lemon / Lime Jam, Golden Glow Marmalade (grapefruit-lemon-orange), Carrot / Orange Jam and Orange-Cranberry-Nut Bread.

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ILLUSTRATIONS

Your Editor has requested of Kay Netscher, our resident artist, that she make some small illustrations for the newsletter (line drawings) to perk up future issues. I feel that the newsletter has a somewhat drab look, being all print. Articles or programs on particular fruits would have more interest if a picture of the mentioned fruit were included. I have found suitable pictures of the correct size to be nearly impossible to locate in other publications (for xeroxing), so the answer is to make our own. Rather than put the whole burden on Kay, if we have any other talented artists among our members, it would be appreciated if they would also contribute. I am also getting the 1983 Fruit List ready and would like to have a couple of pages of illustrations for it.

ARTICLES

While on the subject of contributions, your Editor would also like to make a pitch for articles by members. Surely there are some stories to tell, some expertise to pass along and especially some personal experiences with growing fruit. Personal experiences are particularly popular with readers. So, how about it?

SEFFNER PROJECT, FOURTH WORK SESSION, FEBRUARY 26, 1983

The grape arbor construction was completed and it is now ready for planting. The bridge was painted with a redwood stain making it very attractive. More of the pathways was laid out. The members who worked were: Bill Antozzi, Tom Goldsworthy, Bob & Terry Heath, Arnold & Lillian Stark and Ray Thorndike.

Future work will include finishing the pathways, irrigation system installation, preparation for planting and planting. Donations are still needed of materials for the irrigation system, wood chips or other mulching material for the pathways and plantings and finally, of trees for planting when the time comes. The next work session will be announced at the March meeting. It will probably be on Saturday, March 26th, if the present scheduling pattern holds.

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MARCH MEETING -- SUNDAY, MARCH 13, 1983 -- NEW MEETING SITE -- PLEASE NOTE!

As previously announced, we are moving, out of necessity for larger meeting accommodations, to the Community Room of the Tampa Bay Center (shopping center). The Community Room is located on the ground floor. A long blue-striped hallway next to Girard Jewelers leads to the mall office and to the restrooms. Our meeting room is just beyond the office. If you find that you are the first to arrive, go to the office (Door #3302) and obtain the key to the Community Room. Be sure to prop open the meeting room door, because it is self-locking.

If you have articles to unload from your car, you may use the service entrance under the west ramp, next to Sears. The service road under the ramp is a FIRE LANE and you may park there only temporarily to unload. The Security Guard will be checking.

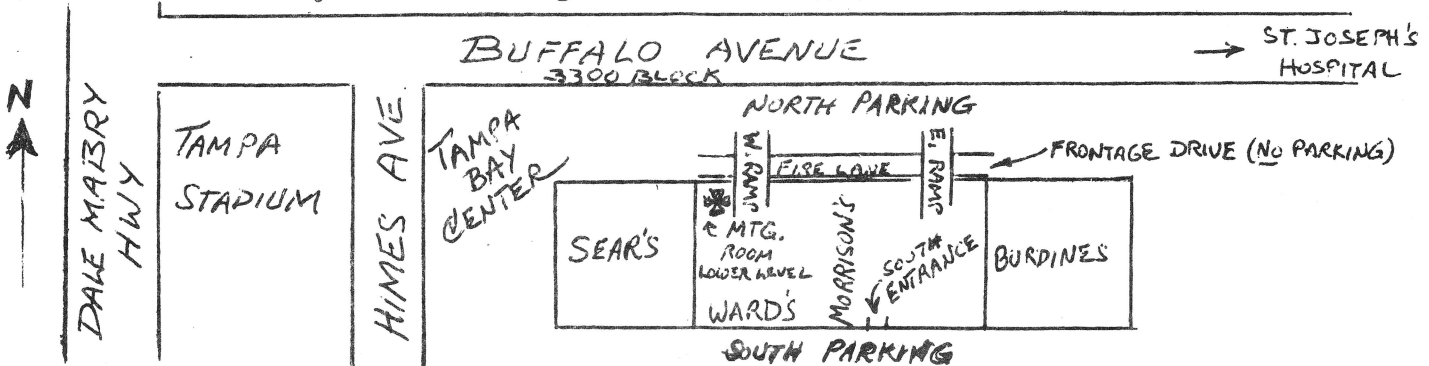
The Tampa Bay Center Mall opens at 12:30 PM on Sundays.

If you park in the north lot, the Buffalo Avenue side of the center, walk up the west ramp and take the escalator down to ground level. You will see Girard on your left.

If you park in the south lot behind the center, use either the main south entrance where Morrison's is or use Ward's entrance. If you enter next to Morrison's, cross the mall and find Girard on your left. If you use Ward's entrance, cross the store and locate Girard across the mall.

Please note that Ward's closes at 5:30 PM on Sundays, but the main mall entrances stay open until midnight.

The Tampa Bay Center is on Buffalo Avenue between Himes and Mac Dill Avenues. This is next door to Tampa Stadium, which fronts on Dale Mabry Highway. Tampa Stadium is bounded by Dale Mabry, Buffalo and Himes. So, either approach Tampa Bay Center by taking Buffalo Avenue from the east or take Dale Mabry to Buffalo Avenue, definitely the best choice if you are arriving via I-4 or I-275.





Program: TISSUE CULTURE

by Martha Burke

Mrs. Burke is from Ceres 2000, Inc., a privately owned plant tissue culture laboratory in Winter Haven specializing in custom contract growing for wholesalers. She brought her General Manager, Beth Geils, and they set up a display of plants and specimens of plantlets in culture. Following is a resume of the slide illustrated talk Mrs. Burke gave on the subject of tissue culture.

Nowadays up to 60% of the plants found at the florist's are of tissue culture origin. Tissue culture history began early in this century, then called cell culture and primarily applied to animal tissue. Applications that were found for cell culture included 1) New pharmaceutical products, 2) a process for rapid crop hybridization, 3) a method for clean-up of disease-ridden plants, 4) a process for rapid clonal multiplication of one propagule, and 5) a method for preservation of germplasm in germ plasm banks.

Tissue culture is the propagation of cells for the purpose of obtaining plants in quantity. It differs from work done in the 1950's where mericlone and meristem was all that was done. The meristem is the growing tip which is capable of regenerating itself under the right conditions in a sterile medium. Typically there is less than a 5% survival rate in meristem reproduction. Thus, this is a very poor method for commercial propagation. It is used in orchid propagation.

Tissue culture uses the very tip of the growing shoot, up to 10 mm of the growing tip including the meristem and the apical dome. With this method, the survival rate has increased to 25% to 75%.

Meristem of the growing tip is still used for the purpose of removing disease from a cultivar. The plant from which the tip is taken may be diseased, but the small area of the rapidly growing tip of the shoot in growth will be free because it grows too fast for the disease to catch up to it. Clean-up by meristem will yield only one healthy plant, which in turn may now be propagated by tissue culture. To practice tissue culture on a diseased plant will serve only to propagate more diseased plants.

Since Ceres 2000, Inc. is a commercial propagation laboratory engaged in the propagation of desired plant types for the horticulture industry, plants brought to them for multiplication must be relatively clean. Clean-up is performed on each and this makes up about 25% of the work done at this facility. Clean plants are essential to the business. They have been in business for 3½ years and now produce more than one million plants per year. 75% of their production is sold right out of the laboratory as "Stage III" plantlets (rooted plantlets just out of the culture phase, but not yet acclimated to soil conditions.) Most of their clientele is large wholesalers equipped to handle their product line in such tender stages of growth. The remaining 25% of Ceres 2000's production does go into their greenhouse for further growth and soil acclimation.

Ceres 2000's product line includes a number of hybrid foliage and ornamental plants. These range from fishtail fern to calatheas and spathiphyllum. They promote their own line of philodendron hybrids, Gerbera daisies and syngoniums. Even so, they are committed to an eventual goal of working on food crops. They have generated disease-free citrus and citrus rootstocks and performed micro-grafting with them. Mrs. Burke pointed out that one must have a certain and fool-proof method of being able to distinguish rootstock from scion when the young bud begins to "push." In the case of citrus they can use trifoliate rootstock and thus be certain of the identity of new growth. That is, if the new growth exhibited the characteristic trifoliar form, they would know that a spurious lateral bud on the stock was overtaking the scion. If orange, rough lemon or other traditional stock were used the first growth would be next to impossible to identify.

Although there are pharmaceutical companies that make and sell pre-packaged media for the tissue culture trade, Ceres 2000 finds it better to confine quality control problems to their own lab. So they are making 20 to 25 liters of media per day from scratch. They must develop their own media formulas and, since they are culturing new plants never before propagated in this manner, they must develop a new culture medium for each one. The media contain major and minor nutrient elements, sucrose, vitamins (thiamine and riboflavin), plus growth hormones (for shoot production and for root production.) Agar is used to solidify the mix. Since this mix is so nutritive and will provide ideal conditions for any contaminating bacteria or fungi, maintenance of sterility is all-important. If they couldn't maintain sterile conditions, they would soon be out of business. Sterile media, paper and utensils are fundamental. Baby food jars have been found to be highly suitable for culture purposes. They are durable and withstand autoclaving (sterilizing by high heat.)

Plants are grown for 4 to 6 weeks in jars under artificial light before being transferred. In order to maintain sterility, transfer is done under a laminar-flow hood. Unlike a fume hood, which sucks the air up into it, a laminar-flow hood pushes sterilized air across the workbench surface in a laminar flow. All instruments used in the operation are heat-sterilized to 500 degrees.

The tissue culture process involves four stages. Starting with a clean (disease-free), vigorous plant, the first step (Stage I) is the dissection out of a sterile bud of meristematic tissue. Stage II is the multiplication step in media, which takes from 4 to 6 weeks. Ten to twenty-five shoots can be harvested per month per jar. There are two types of multiplication, axillary shoots and adventitious shoots. Stage III is the rooting step. The individual plantlets are separated out and cleaned of media to prevent transference of bacteria or fungi. The plantlets are then transferred to a rooting medium. Finally, Stage IV is the soil acclimatization step. Plants are sold in Stage II, III or IV condition, preferably Stage II for maximum profit potential.

Because the process is so expensive, tissue culture is not used unless there is sufficient justification. Thus, there has to be an advantage over seed culture or any of the other propagation methods. The major advantage, usually, is the generation of clean plants which ship more reliably and do not transmit disease problems to the purchaser. Also, some plants do not lend themselves to easy multiplication by the usual methods. They may be sterile, producing no seed, or incapable of exact reproduction, as in F1 hybrids. Except for the citrus, all the plants discussed here are herbaceous. Tissue culture is a great deal more difficult on woody plants and not at all practical on succulents.

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January Program Continued: TROPICAL FRUIT CULTURE IN FLORIDA

by Mary Ann Ogden

OXALIDACEAE - The Oxalis Family

The species of most interest to us is the Carambola (Averrhoa carambola) or Star Fruit, so-called because of its unusual cross section shape. Early introductions into Florida were very sour, but newer varieties are milder and sweeter such as "Golden Star", "Newcombe", etc. The fruit is attractive as well as tasty sliced in salads, frozen in a fruit ring and in many other uses. The pulp and juice are used in cold drinks and punches.

PASSIFLORACEAE - The Passionflower Family

Passionflowers are grown for both flowers and fruit. The fruit has a thin tough shell enclosing a gelatinous mass of seedy pulp. The tart, juicy pulp around the seeds is used for punches and ades and in some varieties has a guava-like flavor. It is one of the base flavors for Hawaiian Punch.

POLYGONACEAE - The Buckwheat Family

Well known members of this family are the Buckwheat (Fagopyrum esculentum), Rhubarb (Rheum officinale) and the Coral Vine (Antignon leptopus). The one of interest here is the Seagrape (Coccoloba uvifera), widely grown in southern Florida as an ornamental. The purple fruit is edible, but most have very large seeds. They make an excellent highly colored jelly - lavender or purple. One must plant both male and female plants to get fruit, however.

PROTEACEAE - The Protea Family

This family is found principally in Australia and South Africa, the best known member being the Macadamia (Macadamia integrifolia) or Queensland Nut. Macadamia is grown commercially in California, Hawaii and Australia. It has not become commercial in Florida because no variety has yet been found that will bear heavily and consistently here, mainly due to our winter climate.

RHAMNACEAE - The Buckthorn Family

Only one genus in this family concerns us here, Zizyphus, the Jujubes. Christ's crown of thorns is said to have come from a type of Jujube grown in Israel. Two species are grown in Florida, the Chinese Jujube and the Indian Jujube. The Chinese Jujube or Chinese Date is a deciduous tree, preferring a colder climate since they must have a dormant period. The Indian Jujube is a tropical tree with an attractive weeping form. The Indian Jujube has a fruit like a miniature crab apple which has three edible stages. When green it is like a green apple, when slightly yellow it is very sweet and finally, when over-ripe, it has the taste and smell of limburger cheese.

ROSACEAE - The Rose Family

This is a large family of great commercial importance since it includes the apple, pear, peach, raspberry, plum, etc. The fruits are found worldwide. The Ceylon peach can be grown even in Miami and Homestead, but its usefulness has been destroyed by the Caribbean Fruit Fly. There is also a tropical form of the raspberry, the "Mysore", which is a large thorny bush bearing blackcap fruit.

RUBIACEAE - The Coffee Family

This is another worldwide family with fruits for eating and for making beverages. A wild form of coffee (a species of Psychotria) may be found in south Florida, but commercial coffee is only grown in Central & South America, close to the equator, because long hours of daylight are needed for good production. Coffee (Coffea arabica) is very cold sensitive and produces best in shade where temperatures are high. Coffee fruits are called cherries and are hand picked because they do not ripen uniformly, green and red berries found simultaneously on the same bush.

RUTACEAE - The Rue Family

The most important genus in this family is Citrus, but there are many other genera producing fruit of commercial value. There is the White Sapote (Casimiroa edulis), which is not related to the Black Sapote (Diospyros digyna). In Spanish countries, sapote merely means sweet fruit. The White Sapote has the cold tolerance of hardier citrus and may be grown as far north as Gainesville. The fruit has a buttery texture, some varieties quite bitter and others very sweet.

The Wampi (Clausena lansium) is on trial as a citrus rootstock and even as an interstock. It is a very nice ornamental dooryard tree. The fruit is ornamental, too, and has a very good flavor. The seeds are quite similar to citrus.

SAPINDACEAE - The Soapberry Family

Four genera of this family are of interest in south Florida, Blighia, Euphoria, Litchi and Melicoccus. The Akee (Blighia sapida), sometimes called "Bligh's Revenge", was brought to the Americas by Captain Bligh on one of his later expeditions after the famous mutiny. The white aril around the seed is the edible portion, but is very poisonous when either under- or over-ripe. It has the texture of raw cauliflower. Codfish and Akee is a Jamaican dish that is very good.

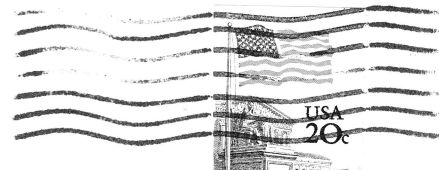
The Longan (Euphoria longana) from Asia is sometimes called the Lychee's little cousin. It bears heavy crops some years, but has a precise chilling requirement which affects fruiting. The fruit ripens after the Lychee harvest and has a longer harvest season than the Lychee.

The Lychee (Litchi chinensis) is also from China and is called a tropical mountain species, meaning that it needs a certain amount of chilling hours but cannot tolerate freezing temperatures. The Lychee is very ornamental and does not require pruning and will bear well when given the proper amount of chilling. The "Brewster" variety is a highly colored red fruit and thus very attractive to birds, also.

The Spanish Lime (Melicoccus bijugatus), Mamoncillo or Genip is a very cold sensitive attractively colored and shaped tree. It has delicious sweet-sour pulp around a large seed with a thin shell overall.

(To be completed next month.)

Tampa Bay Chapter Newsletter
Rare Fruit Council International, Inc.
3114 Troy Avenue
Lakeland, Florida 33803

**NEW MEETING SITE!**

MARCH 13, 1983 MEETING

COMMUNITY ROOM
TAMPA BAY CENTER
BUFFALO & HIMES
NEXT TO TAMPA STADIUM

P. JUDSON NEWCOMBE
314 DEER PARK
TEMPLE TERRACE, FL 33617