

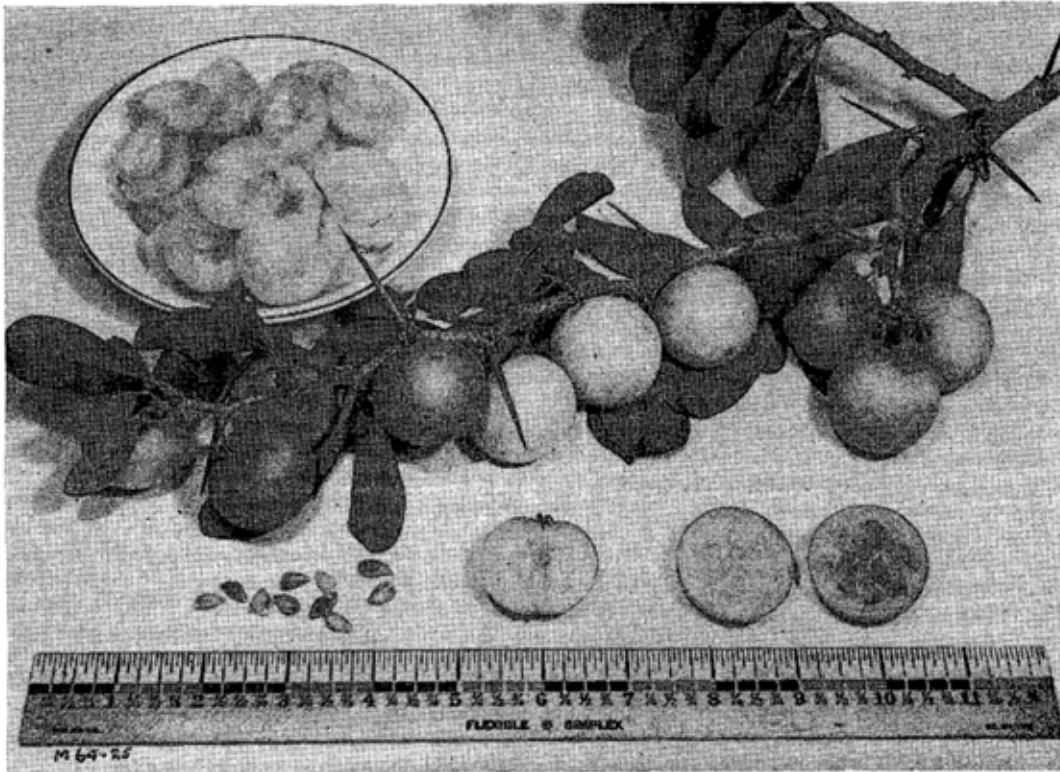
RARE FRUIT COUNCIL, A TROPICAL FRUIT STUDY GROUP

WILLIAM FRANCIS WHITMAN, AND
SALVATORE MAURO
Rare Fruit Council
Miami

On the evening of March 11, 1955, a small group of horticulturally-minded people assembled in the Simpson Memorial Garden Center. The purpose of the meeting was to form an active organization to promote the progress of tropical pomology in South Florida. Those attending were Seymour Goldweber, Dr. Roy Harkness, Dr. R. Bruce Ledin, Duffield Matson, Jr., Salvatore Mauro, Julia Morton, Kendal Morton, Dr. George D. Ruehle, William F. Whitman and Seymour W. Young-

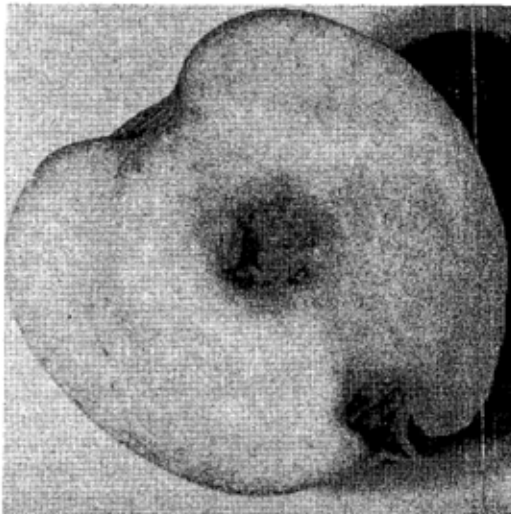
hans. A few highlights of this and subsequent meetings will follow by way of illustrating the purpose and scope of these gatherings.

At this first meeting, Mr. Whitman gave the opening address outlining the need for such a pomological organization. He stressed the fact that South Florida enjoys a unique climate in the United States enabling it alone to grow many cold-intolerant fruits that would not survive the winter in any other part of our continental boundaries. It was suggested that we should take the fullest advantage of this climatic opportunity by making a concerted effort to secure superior tropical fruit varieties from foreign countries, to be on the alert for chance seedlings of merit from our own semi-tropical areas, to encourage breed-



The kei apple (*Dovyalis caffra* Warb.) is seldom seen in Florida though it thrives and bears prolifically. The acid, golden fruit should be better-known. Fruits courtesy Palm Lodge Tropical Grove, Homestead. Photo by Kendal & Julia Morton.

ing, to learn more about cultural requirements by exchanging information and ideas on this neglected but interesting and important field, the know-how of growing tropical fruits. The introduction and distribution, on a free exchange basis, of superior varieties of pomological material for the tropical areas of the world could be undertaken. The strategic location of the Miami International Airport, with its many flights to and from countries to the south of us, offers a direct and easy means of carrying out this far-flung plant exchange. Requests and suggestions could be offered to the U. S. Department of Agriculture to make this international plant interchange more workable by reducing the percentage of loss on material which enters the United States from tropical areas and at the same time giving the fullest protection against the introduction of foreign pests and diseases. The many horticulturists going to or coming from tropical areas who pass through Miami could contribute greatly to our knowledge. It is hoped they can be persuaded to appear before this assembly.



The first seedless guava borne in Florida on plant introduced from Java by William Whitman. Fruit is yellow-skinned, white-fleshed and of sweet, excellent flavor.

Photo by Wm. Whitman.

Mr. Whitman then suggested a round robin discussion to decide whether those present would care to form such a group. It was soon apparent that a need for this organization in South Florida did exist and that all present were eager and willing to be included.

Mr. Whitman was elected chairman, Mr. Younghans corresponding secretary and Mr. Mauro recording secretary. A decision was made by the newly formed organization to hold monthly meetings on the second Friday of each month in the Botany Building of the University of Miami at 7:30 P. M.

The second meeting of the as yet unnamed group, was held on April 8th in the University of Miami's Botany Building. Mr. Younghans established a precedent by providing the members with delicious jaboticabas from his tree, one of the best fruiting specimens in this area.



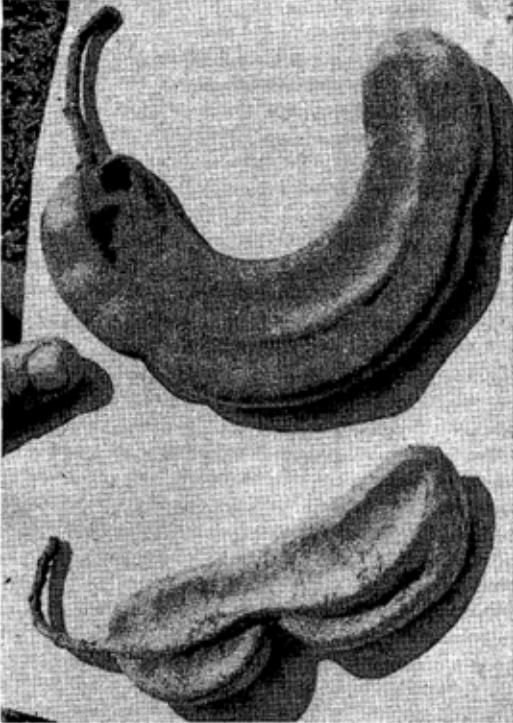
The first bunch of striped Aese, or Koaee, bananas borne on plant introduced from Hawaii by Salvatore Mauro.

Photo by Wm. Whitman.

Mrs. Morton read a treatise on a dwarfing technique for trees. The procedure is to remove a ring of bark, with its live cambium layer, and replace it inverted, so the top edge is then on the bottom. This has many practical applications for small yards with limited space in addition to increasing the number of trees and yields per acre in groves, reducing fruit harvesting costs, spraying and maintenance expenses, etc.

The third meeting of the Rare Fruit Council was held on May 13th. Julia Morton made a motion that the name of our organization be the "Rare Fruit Council". This met with favorable response from the membership present and the motion was seconded and unanimously approved.

Seymour Goldweber gave an interesting talk on macadamia nuts, stating we do not as yet have good varieties that are well adapted to this locality, although good performing ones in other regions are still being tested for this area.



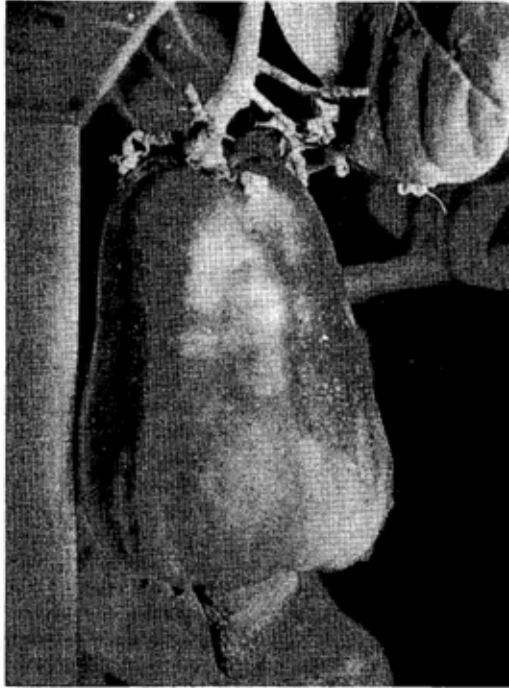
Immense tamarinds, up to 2" wide and 10" long, from tree found by William Whitman on Green Turtle Key, Abaco, Bahamas.

Photo by Julia Morton.

Dr. Ledin passed around an old publication listing the tropical plants that were known to growers in South Florida about thirty years ago. It was interesting to note that several varieties listed are almost non-existent at this date. Kendal Morton then discussed the extremely important topic of the preservation of known superior strains of fruits. In the past many outstanding varieties that have arisen by somatic mutation or seedling variation have

faded away. Mr. Younghans referred to having, in the past, eaten seedless Surinam cherries, which may not be found today. The proper techniques for asexual reproduction should be more widely known and practiced. Greater dissemination of these skills and knowledge will help to preserve some of the fine fruits we now possess for our progeny.

The June 10th meeting was held, as usual, in the Botany Building of the University of Miami. Considerable interest was shown in specimen fruits brought in by the various members. From the Sub-Tropical Experiment Station, Dr. Ledin brought lychees, peaches, passion fruit, Cattley guavas and a fine selection of mangos from the Station's test plantings. Dr. Lincoln produced an exceptionally large *Casimiroa tetramera* with little or none of the bitterness so commonly present. The Mortons presented the group with Kei apples and conducted an igniting test with candlenuts strung on wire. S. W. Younghans brought some brandied rose apples. Most of the rose apples were left but the brandy was relished by all.



A 4½" red cashew produced by air-layered plant grown by William Whitman.

Photo by Wm. Whitman.

Dr. Ledin projected a series of colored slides made by Mr. S. J. Lynch during a recent visit to Honduras. This expedition, of which Dr. Ledin was a member, included a visit to Dr. Popenoe's Escuela Agricola Panamericana at Tegucigalpa and the United Fruit Company's experimental station at Lancetilla. The transparencies shown were brilliant and sharp, Dr. Ledin's comments and explanations added a great deal of most useful knowledge which was passed on to the audience. Following the showing of the slides, a general discussion was held relative to the adaptation of the many plants and fruits shown to this area.

A most interesting meeting was held by the Rare Fruit Council on July 8th. We were especially pleased with the presence of Mr. Roem Pumariksha, Chief of Research and Experiment Station Division of the Department of Agriculture for Thailand. He gave us fascinating facts relative to the fruits from his country, many of which have never been cultivated in this area. The mangosteen,

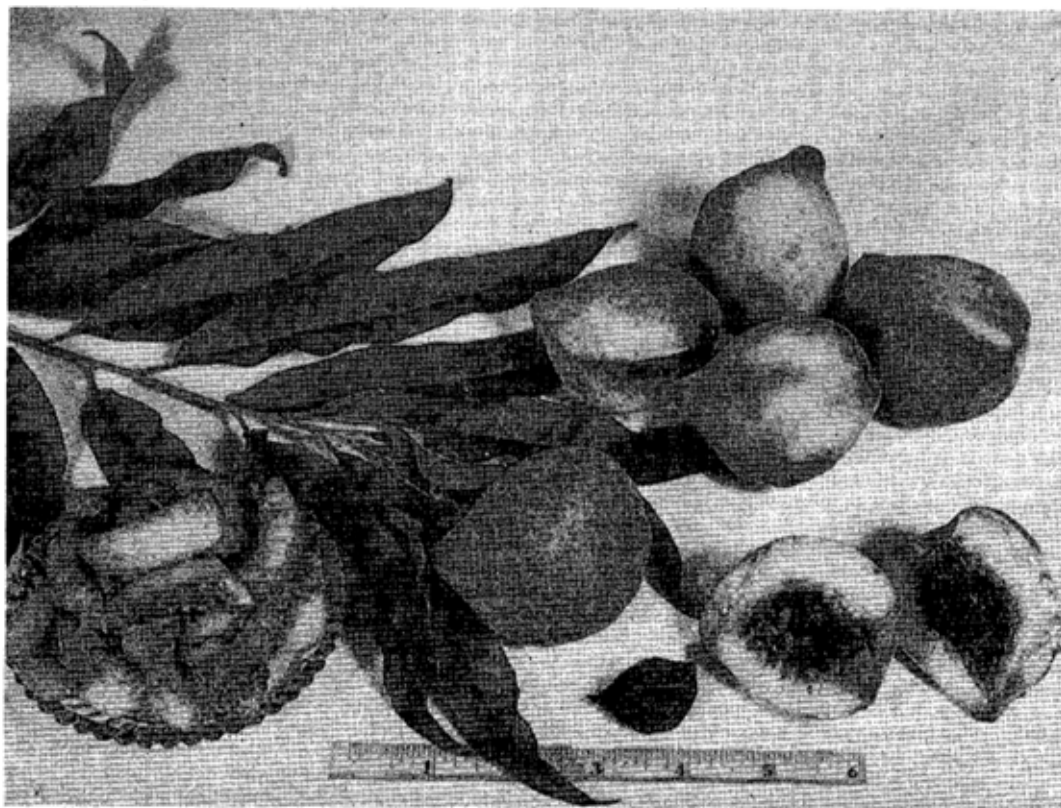
durian, rambutan, santol and bouea are commonplace in Thailand. However, he stated that the grafted durian fruit was so expensive in Bangkok that none but the wealthy could indulge themselves, individual fruits usually bringing five dollars. The longan is grown commercially in his country. Mr. Roem also gave us some unusual information on the consumption of the mango in his homeland, both as to preparation and methods of eating. One variety, the Okrung, is used with coconut milk, another is devoured while green and probably is the favorite there. He promised the Council plants and budwood for our work here.

Dr. Ledin presented some new mangos that are as yet unnamed but which appeared to deserve consideration. Another mango, the Pruter, originated by Mr. Pruter of Pine Island on Florida's West Coast, is a rich, red color and received favorable attention from all present. Mr. Whitman brought an extremely large, red cashew. While this fruit was of



Meetings of Rare Fruit Council feature appraisal of superior varieties.

Photo by Wm. Whitman.



Choice Red Ceylon peaches grown by Albert Caves, Palm Lodge Tropical Grove, Homestead. Fruit is excellent sliced and sugared, stewed or frozen.
Photo by Kendal & Julia Morton.

good but not outstanding quality, its immense size and brilliant color drew favorable comment.

Among other fruits exhibited was a stalk of beautifully variegated Hawaiian bananas. This great bunch of green-and-white striped fruit was grown and presented by Sam Mauro from his banana collection. This is believed to be the first time the variegated Polynesian banana has borne in the United States. It should prove to be an outstanding ornamental for landscaping in addition to equalling the West Indian plantain for cooking.

Mr. and Mrs. Hill of Vero Beach distributed a quantity of large, luscious Brewster lychees. These beautiful, red, Indian River grown fruit were thoroughly enjoyed by all. They were visible evidence of the quality and success the growers of this area have attained with the lychee.

Our August meeting had the largest attendance of any to date. We were fortunate

in being able to have artist Lee Adams present. Mr. Adams, well known for his exceptionally talented tropical fruit portraits, gave us a brief but most interesting resume of his career. While majoring in botany at Rollins College his paintings drew the attention of Dr. Updike, who realized the rare talent of this young artist. A meeting was arranged by Dr. Updike with Dr. Fairchild. Upon seeing the paintings, David Fairchild became very enthusiastic and did much to encourage and persuade Mr. Adams to continue on with his work. A great friendship grew up between the two, and Lee was painting at the Kampong when the great plant lover passed away.

Julia Morton read from the periodical "Queensland Fruit and Vegetable News" an article on the Bettina Dwarf Papaya. Not only did she describe the fruit but she distributed seeds, recently received from Queensland, to the members present. This role played by

Mrs. Morton demonstrates the Rare Fruit Council in the act of introducing a possibly valuable addition to our pomological flora.

Fruits presented for the evening's examination and discussion were longans and carambolas brought by Dr. Ledin from the Experiment Station.

The "Rare Fruit Council", as the name implies, is a group devoted primarily to the study and advancement of the lesser-known tropical fruits which have not yet achieved economic importance or are not cultivated on

a large scale in this country. It affords an excellent opportunity to assemble monthly, in a congenial group, those interested in this fascinating field of endeavor. The enthusiasm shown by this small gathering leads us to anticipate a bright future. It is hoped the Rare Fruit Council will continue to grow and its members, working as a team, make a permanent contribution to the advancement of tropical pomology around the globe, as well as in our own "backyard" of South Florida.

STUDIES ON THE UNFRUITFULNESS OF MINNEOLA TANGELOS IN DADE COUNTY

S. JOHN LYNCH AND MARGARET J. MUSTARD

Division of Research and Industry

University of Miami

Coral Gables

Many of the finer quality tangelos, when planted in Dade County in grove formations, have proven quite erratic in their bearing habits. This condition of unfruitfulness has been most commonly observed with the Minneola variety. Frequently individual trees set and mature heavy crops but often in the grove the average yield per tree is discouragingly small. This light bearing habit has been observed in mixed plantings of tangelos as well as when the Minneola is in solid stands.

Many individual Minneola trees have been observed to produce large crops in Dade County but the heavy crops were followed by a small or moderate crop the following year. The Minneola trees, in a five acre plot now six years old, comprising about one-half of the planting along with Lake and Seminole, have proven very erratic as to yield. In another adjacent five acre plot of Minneola trees, now four years old, the crop had been practically nil in spite of a heavy bloom last year. All the tangelos on the University's Experimental Farm are on rough lemon rootstock.

Reports from central Florida, where the Minneola is finding favor with some growers due to its high fruit quality, indicate that the erratic bearing habit is becoming evident.

Many reasons for this habit and "sure cures" for its correction were offered but the "cures" differed widely.

Light crops upon seemingly vigorous growing tropical and subtropical trees which put out a normal heavy bloom have been alleviated or changed to heavy fruit set in a number of ways. It has been observed with avocados (8) on Miami oolite soils that nitrogen has an influence on fruitfulness, and with Persian limes (7) on the same soils both nitrogen and potash have an influence on fruitfulness. There is also a possibility that there might be a temporary or transient deficiency of boron on the Miami oolite soils as was observed by Lynch in 1941 (6). At that time an apparent boron deficiency was corrected on grapefruit growing in Dade County.

According to Webber (12), the majority of tangelos are self-sterile. One important cause of self-sterility in some plants is the failure of pollen tubes to grow long enough to fertilize the egg (1). It has been known for some time that the addition of boron to sugar media used for the germination of pollen of fruit trees, not only increases the percentage germination of the pollen grains but also increases the length of pollen tubes produced (3, 10, 11). More recently (9, 4), it has been noted that boron deficiency results in decreased bloom set, and the application of boron sprays in dilute concentrations to open flowers increases fruit set (2, 5). The exact roll of boron spray in increasing fruit set is not clearly understood. The possibilities suggested by