

tion before I close. In 1930 we had Popenoe's "Manual of Tropical and Sub-tropical Fruits," then ten years old, and rather sketchy bulletins on avocado, mango and papaya growing. Those constituted our information on growing tropical fruits in Florida. The picture changed rapidly after 1930. In 1931 came the bulletin by Mowry and Toy on "Miscellaneous Tropical and Subtropical Fruits," in 1934 the bulletin by Wolfe, Toy and Stahl on "Avocado Production in Florida," and in 1940 one on "Papaya Culture in Florida" by Wolfe and Lynch. An important feature of these bulletins has been their frequent revision, so that they have been available fairly constantly since their first publication, but brought up to date every few years. Not until 1949 did any mango bulletin appear—"Mangos in Florida" by Lynch and Mustard—although the speaker had one more than half written in 1936. The booming lychee industry is fortunate in having good bulletins by both Grove and

Cobin almost at its beginning. Stambaugh has presented his ideas on papaya growing—derived from years of first-hand acquaintance—in "The Papaya," issued in 1938 and revised in 1945. Federal scientists have dealt with both avocado and papaya on a national, rather than state, basis in bulletins on "Avocado Production in the United States" in 1941 by Traub, Pomeroy, Robinson and Aldrich, and on "Papaya Production in the United States" by Traub, Robinson and Stevens in 1942. Platts gave us our only modern bulletin on the pineapple in 1945 as "Pineapple A, B, C's," and a long needed bulletin on guava culture was finally provided by Smith late in 1949.

Looking backward, in closing, we can say that the past twenty years have seen great progress made in growing of nearly all tropical fruits. There is still much to learn. May the next twenty years see even more advancement made!

## TROPICAL AND SUB-TROPICAL FRUITS IN PINELLAS COUNTY

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The peoples of Pinellas County were among the first in the state to experiment in the planting of tropical and sub-tropical fruits, as is evidenced by the existence, in the county today, of some of the oldest and largest specimen trees. While located farther north than what is generally considered the only tropical zone in America; the topographical nature of the area renders it suitable to the culture of many items that cannot be grown in the inland areas a considerable distance further south in the state. The county is a peninsula, roughly the shape of the State of Florida, extending

south from the western portion of Pasco County, with the Gulf of Mexico lying to the west and south, and old Tampa Bay to the east. Its elevation averages well over 30 feet above sea level, with some large areas between 60 and 75 feet above sea level. The bluffs along Clearwater Bay and a portion of Old Tampa Bay, near Bayview, are among the highest coastal elevations along the entire southeastern seaboard of the United States.

Owing to these high elevations, the close proximity of deep water along the east, west and south coasts the County has a very moderate climate during both summer and winter which, together with its deep sandy loam soil, renders it well

adapted to the culture of many tropical and sub-tropical fruits.

Since another section of this Convention deals specifically with the various phases of citrus fruit culture and production, a discussion of that field is omitted in this paper.

The earliest introduction of tropical fruits into the county antedates the Seminole Indian Wars, and probably should be credited to the famous French Naval Officer and Physician, Dr. Phillippe, who developed a large plantation on a high bluff on the shores of Old Tampa Bay, a short distance north of where the City of Safety Harbor is now located. Almost certainly there was included in the Phillippe plantings avocados, mangos, papayas, sapodillas, sapotas, annonas, and limes.

Alas, however, as was the case with several early tropical fruit plantings along the lower east coast and keys, abandonment of the Phillippe project was forced by ravaging Indians, and none of the tropical specimens survived long thereafter. But it is certain that seedlings originating at the Phillippe place became well disseminated throughout the County, and survive to this day.

On North Osceola Avenue in the city of Clearwater, just off Cleveland Street, on the old Stemple place stand three of Dr. David Fairchild's earliest introductions of the famous Mulgoba mango. These trees are over 40 years old, about 70 feet high, and have a trunk diameter of almost three feet. The condition of the trees is good and they bear good crops of fruit nearly every year. Incidentally, the Hansen mango, a larger and more colorful and a heavier bearing fruit of very fine quality, is a seedling of one of these three Mulgoba trees.

Probably the most important today of the more tropical fruits in Pinellas County is the avocado. There are several thousand bearing size dooryard trees

in the county, many of which are seedlings of both the winter and summer bearing varieties. In addition to these dooryard trees, there are probably more than 150 acres of grafted bearing commercial avocado groves that every year bear fruit valued at several hundred thousand dollars. In the Annona section, there are many very fine old avocado trees, some of which have a spread of almost 100 feet, and bear very fine fruit.

Next in importance, is the mango. In the city of St. Petersburg, the most common street and door-yard tree is the mango, and while thousands of bushels of fruit are marketed from these trees each year, a large portion of it falls to the ground and is wasted.

While there are no large commercial plantings of fiberless mangos in the county, there are a considerable number of small commercial plantings that contain the latest improved varieties.

Information obtained from commercial nurseries indicate a presently existing active interest in the newer varieties of grafted mangos and avocados, with sales of several thousand trees each year. While the mango does best on our deep sandy loam soils, it has been observed that they do almost as well on the lighter deep sandy soils that would be considered too light and dry for citrus and avocados.

While not of great commercial importance today, it appears from present interest that within the next few years, the production of Chinese lychee fruit in Pinellas County will rank second in importance only to the citrus industry. There are probably 100 bearing lychee trees in the county today, 60 of which are owned by this writer. During the immediate past year, between 60 and 80 acres of commercial lychee groves have been planted in the county and the present rate of planting is limited only by the number of trees available to plant. The present demand for fresh lychee

fruit far exceeds the production, and all fruit are sold at very high prices. It can be safely said that in the present circumstances, the per tree profit on bearing lychee trees is the highest of any fruit tree grown in America.

Among the less important tropical fruit trees bearing in Pinellas County, are the Akee (*Blighia sapida*), Carambola (*Averrhoa carambola*), Cherimoyo (*Annona cherimoya*), egg fruit (*Lucuma nervosa*), sapodilla, sapota, white sapota, Surinam Cherry, *Eugenia Dombeyi*, Sugar Apple (*Annona squamosa*), Ilama (*Annona diversifolia*), and the papaya.

During the past several years, Mr. Ed S. Whitson of Clearwater has done considerable experimenting with several species of the annonas. By the use of

various related root-stocks he has been able, by grafting, to succeed with several species that have heretofore failed. In the past, the limiting factor with many species of annona seems to have been the root-knot nematode.

Commercial production of the papaya in Pinellas County is becoming an important item, but again the limiting factor is the root-knot nematode.

It would be safe to say that Pinellas County will always be studded with many private gardens and a few commercial plantings that will feature the more tropical of fruits above mentioned. The lychee, avocado, mango and papaya are now of economic importance and in the future will be more so.

## THE FUTURE OF TROPICAL AND SUB-TROPICAL FRUITS IN FLORIDA

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This paper is not intended to create the excitement as the one Dr. Fairchild read in Winter Haven some ten years ago about the Bael Fruit. As I remember, some of us were going to plant 40 acres each and put the marmalade processors out of business. That is until we found out that we had to plant a sugar palm grove so a package of palm sugar could go with each fruit.

Neither do I wish to excite one to the extent of planting a hundred-acre arbor of chayotes, only to discover later that squash is better and can be grown for much less per bushel. This is not necessarily a one-man opinion, but rather a cross section from county agents, nurserymen and growers.

It is not intended that this paper should be too much on the cautious side either. Our crystal ball does not carry

us far enough in the future but that we remember the past occasionally. The most successful growers at present seem to be the ones who started small and grew with it. On the other hand, the ones who become most discouraged are the large planters who are going to do it quick and in a big way before they or their land are ready to cope with some disaster that seems to come our way—not too often, but often enough.

Many a moon has passed and much water has gone over the dam since the first mulgoba mango, the brewster lychee, jaboticabo, and many other tropical fruits were sent to South Florida to make their home. Some were not happy; others tried for a time, while many grew and bore fruit, some good, some fair; while some of it, to people who claim to like Bael Fruit and Rose Apples, was not eatable. However, I have heard some say they thought these to be wonderful.

Now that we have a good collection of