

What a future the lychee has in Central America! So far, there are only a few trees scattered here and there; but we have plenty of regions with suitable climatic conditions—our diversity of climates and soils is one of our great horticultural advantages.

When I was developing Lancetilla Experiment Station at Tela, in the late 1920's, Dr. Otto Reinking who was hunting for disease-resistant bananas in the South Pacific sent over some lychee trees from Amboina. These trees grew beautifully at Lancetilla; they came into bearing at an early age; and they have been bearing ever since. And they seem to bear every year, which is not true of all lychees. This variety has puzzled me. I do not consider the quality as good as that of Brewster, and the fruit is somewhat different in appearance. I believe you have the variety, either at Homestead or the South Campus of the University of Miami. I have wondered if it might be a hybrid between the lychee and the rambutan, but I doubt it. I wonder if it might be the so-called rose-scented (Bengal) lychee which has recently come to you from India. Without meaning any harm, I want to add that ever since I was working with David Fairchild in Washington, forty years ago, I have been a trifle gun-shy of some of the East Indian nurserymen. We used to get trees of a single mango variety, and usually a poor one, under seven different names; and just before I left Washington to come to Honduras we got a bushel or two of bamboo seed, under five separate and distinct specific names, and it was all of one variety, and that just about the worst timber bamboo in the world. I brought some 25,000 young plants to Honduras and later when we had to put in the bulldozers to get rid of it (the spines made

it impossible to grub it out) the expense practically wrecked our budget for that year.

We are interested in your guavas, and we are trying to get them started in this part of the world. You have really done something to that humble, much-maligned fruit (I understand much of the credit is due to Dr. Ruehle of Homestead) and the time will come when there will no longer be occasion for the stories about guavas. I remember when I went to the Isle of Pines in 1914, one of the American settlers swore that he had sent a box of guavas to his brother in a small town in New Jersey, and he had marked it "Guavas, Perishable, No Delay." He said the express agent after waiting for three days, sent a postcard to the consignee, saying "Please call for your guavas. I think he is dead."

I do not want to make you jealous by talking about fruits which we can grow and you cannot, but I will try to balance things a bit. The mangosteen is a perfectly grand fruit; it does well at low elevations in humid tropical regions. David Fairchild said, when he visited us some years ago, that our mangosteen orchard at Lancetilla is the largest in the world. At that, we only have a thousand trees or so. And we can not see much of a commercial future for mangosteens. Irregular bearers, and the fruit rather difficult to handle commercially. On the other hand, we have the durian, which Dr. Fairchild sent us from Java. They say people in the South Pacific islands will almost kill each other, or will divorce their wives (one at least) to get a durian; but when I took one from Lancetilla and left it in the bedroom of a friend, he rushed across the hall that night and said "Come over here and help me hunt; there must be a dead rat in my room but I can't find it."

## MARKETING OF LIMES AND AVOCADOS IN FLORIDA

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*South Florida Growers Association, Inc.*

Goulds

During the ten years from 1935 to 1945 there were approximately 2,000 acres of avo-

cados and 3,000 acres of limes in Florida. Most of these groves were in full production during this period. There were approximately 150,000 bushels of avocados produced annually and 200,000 bushels of limes produced annually. During the period from 1945 to 1955 the total of avocado acreage rose to approxi-

mately 9,000 acres and the amount of limes to 6,000 acres. During this past year there were about 600,000 bushels of avocados produced and 500,000 bushels of limes. Many of these groves are not yet in full bearing. It is estimated that within the next two or three years the avocado crop will be between 800,000 and 900,000 bushels and the lime crop will be from 600,000 to 700,000 bushels.

During the past ten years the land on which Dade County avocado and lime groves are planted has risen in price from \$100.00 an acre to \$1,500.00 an acre, and it appears that land prices will go even higher. To add to this, the costs of labor as well as fertilizer, have risen manyfold during the past 10 years. With competition for labor from nearby military installations, as well as a tremendously expanding urban population, it can be expected that labor costs will rise materially in the next few years ahead.

Fortunately, the newer plantings of avocados have been made with varieties which bear more regularly and have heavier yields per acre. Too, with the use of better nursery stock, as well as the planting of more trees per acre, the lime growers have been able to increase their yield per acre from 100 to 150 bushels up to 300 or 400 bushels per acre. It is expected that as price for land increases and the costs of production increase, more intensive cultivation and more efficient use of machinery will enable the growers to increase their production of avocados and limes per acre at a somewhat lower unit cost than might have been possible in previous years. Still, with the prospect of lower prices due to increased production of both limes and avocados each year and the continual increase in production costs, it can be seen that the avocado and lime growers in Florida are faced with a dilemma which must be solved if they are going to stay in business.

Two years ago the avocado growers adopted a marketing agreement program which set up standards of quality for avocados so that only the best fruit would be marketed. In addition, they attempted to regulate the movement of some 50 varieties of avocados so that these would each be marketed at the time they were properly mature. Finally, they standardized the packages in which avocados were packed and marketed.

A few months later the Florida Avocado and Lime Commission was formed by the growers of Florida for the purpose of advertising limes and avocados in order to increase the demand for these fruits. Efforts have been made to distribute avocados and limes as widely as possible throughout the United States by all of the marketing agencies.

Since the growers and shippers of limes and avocados have been working closely together they have learned a great deal about their mutual problems and are taking steps to correct these. Just during the past year a number of growers have cut down a good many of the less desirable varieties of avocados and grafted these over to some of the varieties which the markets prefer. This was the result of education gained by the growers and shippers working together to find out what varieties were best from a growing, packing, shipping and sales standpoint. The industry has concentrated on four or five varieties which are marketed all the way from July through February of each year.

Although there are now better than 50 varieties being marketed commercially, 4 or 5 varieties make up approximately 60% of the total fruit being marketed. The industry hopes to be able to further reduce the number of varieties being marketed so that in the future only these 4 or 5 major varieties will comprise nearly 100% of the Florida avocados being marketed. In this way the Florida avocado industry hopes to be able to standardize on certain varieties being marketed at certain times of the year and these will come to be recognized as the outstanding avocados from Florida.

For many years Florida limes were used primarily in mixed drinks and as a hot weather beverage. When the weather turned cool, demand was very light. When supplies were short, prices were very high. The problem was to attempt to increase the use of limes in many ways other than beverages, such as on melons, on seafood, for pies and the many other uses in which acid fruits can be utilized. This has required continued effort on the part of the marketing agencies. The Avocado and Lime Commission attempted to increase the use of limes by sales promotion campaigns in the Florida markets, as well as in some select-

ed markets in the North. All who have been connected with the promotion of avocados and limes will agree that it is a difficult job to introduce new fruits to consumers in northern markets and it takes continual sales efforts, as well as promotional work, to expand the demand for these fruits.

Mention should be made here that a year ago the lime growers decided to adopt a marketing program and under the difficult marketing circumstances of this past year,

they have been quite successful in keeping the better quality limes going to market and diverting surplus and off-grade fruit to by-products.

The Florida Avocado and Lime Commission presently taxes all growers at the rate of 10 cents per bushel for their promotional work. The avocado and lime growers of Florida feel that continued efforts at creating demand will enable them to sell their future crops at profitable prices.

## THE SUB-TROPICAL FRUIT PROGRAM OF DADE COUNTY

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Dade County

This is a review of the major phases of work with sub-tropical fruits during the last ten years as carried out by the County Agent's Office of Dade County. Here a statement should be made that this work was carried on very largely by or under the direction of Mr. Charles H. Steffani who retired as County Agent, September 30, 1955.

Dade County is the leading county of the state in the production of sub-tropical fruits. Due to the county's location and its climate, this is one of the important segments of our agriculture.

The major commercial sub-tropical fruits of the county are avocados, Persian (Tahiti) limes, mangos and papayas. The limes are included here as they are more subject to cold injury than the more widely grown citrus fruits. The other sub-tropical fruits grown include the bananas, guava, the Barbados cherry, black raspberry, Ti-es, Sapodilla, various annonas, and several dozen other fruits. Some of the latter group are grown to a limited extent commercially, but for most part are considered as dooryard fruits.

Avocados, the most extensively planted, account for 8998 acres. Persian lime acreage amounts to 6600 acres and mangos total 2500 acres. The plantings of the other fruits will probably amount to another 350 acres not including dooryard plantings.

Now that you have the above picture of the extent of the sub-tropical fruit industry in Dade County, I will now discuss some of the problems that have existed and the resulting major phases of work as carried out by the County Agent's Office.

Returns in many instances were not satisfactory. For this reason, mainly "Cost of Production and Return Studies" were made. This work began in 1947 but records were obtained and compiled on avocados and Persian limes as far back as 1940. Such records assisted many growers in evaluating their position. I believe, however, the most important result was that the records were such that the whole industry was informed of the overall low profits and in due time began to take steps to improve the situation.

For a period of several years immediately following World War II there was a growing interest in planting groves. During this period the acreage of our major fruits more than doubled. During this time the County Agent's Office had to be prepared to advise growers, many new to the area, on grove site selection, proper elevations, land preparation and all factors that affect the proper planting of a grove.

There has been a large number of avocado varieties and mango varieties to choose from for a number of years. There has, however, been a great need for better varieties that will give increased marketable yields combined with improved consumer acceptance. Many individuals as well as research groups have been encouraged to be continually on