

LIMES AND THEIR HANDLING

Frank Stirling, Davie

When Mr. Floyd wrote me a month or so ago and asked me if I would give a talk today on the subject of Limes and their handling, I said yes simply out of courtesy to him. There are some in this audience who could tell you a lot more about limes than I can.

Because of there having been so much interest in the business of lime growing during the past several seasons the matter of any information covering this particular branch of citrus growing will undoubtedly be of considerable moment to many who have been led to believe the growing of limes a profitable endeavor. Because of this interest, I am convinced of the necessity of a very careful analysis of the subject in order that anyone who may be considering the investment of any large amount of money in lime culture may make a very careful investigation before being lured by promises of large financial returns. With this in mind, it might be well to look into the past history of growing limes in Florida.

Limes have been grown in this state, commercially, for the last seventy-five or hundred years. They have been grown commercially in the West Indies, Mexico and Central America for centuries. Here in Florida, they are grown on account of the need for acid fruit. They have been considered easier grown than lemons, and the demand in the northern states is apparent when one considers the amounts of limes imported from foreign countries. I am informed by Dr. A. F. Camp, head of the Department of Horticulture at the University of Florida, that after careful investigation he found the United States imported during one year over five million pounds (six thousand boxes) of limes which came into this country from Central America, the West Indies, Italy and the northern countries of South America. So it would seem advisable to extend the culture of limes here in our own state in order to meet the requirements of the North. Many growers have thought it advisable, every once in a while,

to do just that—in fact, every few years during the past half century a sort of boom in lime growing has been begun so now with all this data at hand one wonders just why this particular branch of the great citrus industry of Florida is not larger than it really is. The demand is apparent, the price per box received is certainly favorable when compared with prices received for other citrus fruits, and yet lime production—in proportion—is way under the production of other citrus varieties. Apparently there are some major factors involved which have kept lime production low.

There has been some increase in lime plantings during the past twenty years. A great deal of this increase has been in home plantings (back yards) with a less increase in commercial groves. It was my privilege while employed by the State Plant Board of Florida to conduct, in 1918-19, the first citrus census of Florida, a result of which showed the bulk of lime plantings were on the Florida keys south of Homestead. The limes grown there were of the small variety known as Mexican or Key limes. They were grown in jungle plantings, scantily cultivated, hardly ever fertilized, the trees seldom pruned, and the fruit harvested by picking them up off the ground where they had fallen, putting them in barrels and shipping. At that time the census showed some 80,000 trees, bearing and non-bearing. A later census taken by inspectors of the Plant Board in 1931 gives a total of nearly 135,000 lime trees, bearing and non-bearing, on these same Florida Keys. This same census also shows some 70,000 lime trees in the other sections of Florida, most of which were of the Persian or Tahiti variety.

Just what amount of fruit is harvested and sold from these Florida lime plantings would be exceedingly hard to estimate, for there is no apparent way of determining. The official figures for citrus shipments for the current year up to May 1st gives 12,688,000 boxes of oranges; 6,300,000 boxes of grapefruit and 1,835,000 boxes

of tangerines, but says nothing about how many boxes of limes were shipped. I presume a very great many, if not the bulk, were sold locally. I have spent many mornings at the Miami Curb Market, where produce of all kinds are disposed of, and have observed many lime growers from the Keys selling their limes on this local market. I know of a number of home plantings where the yard contains several Persian lime trees, some of them thriving wonderfully and producing more fruit than the owner can use, the surplus being sold, generally, by the dozen to local grocery stores. Within the past few weeks I have known of Persian limes selling at three cents each, locally. This computed on an average basis figures out about \$2,500.00 per acre for five year old trees.

The growers of the small variety of limes on the Florida Keys have been experiencing difficulties brought about by storms during the past few years. The hurricane of 1926 ravaged the groves to such an extent that many of them were abandoned. The interest in lime growing which came about four or five years ago resulted in a renewed attempt at bringing back the Key lime industry, which was getting a good start when the hurricane of last fall practically demolished most of the plantings so that the limes at present on the Keys is almost nothing.

It is doubtful if the Mexican or Key variety will ever amount to much anywhere else than on the Keys, that is commercially, for to begin with they are exceedingly sensitive to cold, generally affected with wither-tip and being mostly seedlings are not regular bearers. There are, it is true, scattered home plantings of Key limes in different parts of South Florida and as far north on the East Coast as Cocoa. They make a pretty tree when properly pruned and cared for, and are being used considerably by landscape men as ornamentals on estates in Miami Beach and other resorts of the lower East Coast.

I have reason to believe the Tahiti lime will ultimately have an important place in the affairs of citrus in this state. It is becoming more and more prominent. This variety seems to be more hardy than the Key lime, that is, more resistant to cold. It is known to do well in certain well protected places in the ridge section as well as on

the East and West Coasts. However, no other branch of the citrus business requires more careful attention and many growers have learned much about the proper or best root-stocks, adapted soils and protected locations. Most of the plantings are on rough lemon, but I have observed that they do well when budded on sour orange when planted in heavy soils and I am interested in watching results of top-working large trees of various varieties whose roots are all sour orange.

There is a lot to be learned about lime growing before it can be made as sure and successful as oranges and grapefruit; the field is still in an experimental stage. A lot of money has been wasted through lack of knowing conditions surrounding their culture. There are a few growers known to me who are succeeding, but I notice they are those who study all conditions; they are growers who are in many instances pioneers in general citrus culture, who know a lot about citrus in general. There are a lot of growers who have not been successful in growing limes; plenty of them have spent money in the attempt and will never get it back. They have found that planting an orange or grapefruit grove is one thing—but planting and bringing into profitable bearing a lime grove is another. The trees are more difficult to care for and there are certain diseases to contend with such as wither-tip and bud-end rot, and always the danger of frost damage. Lime growers experience many difficulties which are seldom overcome.

There is one thing about the lime business that seems to be satisfactory. This is the marketing possibilities, especially of the large Tahiti variety. Perhaps this is due to the limited production, and might not apply in case of an enlarged acreage. Apparently a very large percentage of all the limes are sold right here at home for Florida consumption, though some of course are shipped north, for the few commercial groves that are bearing well have found a preferred market in the North. The growers of Key limes do not ship their limes in barrels as they did a score of years ago, but sell them by the box. The large limes are marketed in containers deemed most advisable by the shipper—some in standard crates—

some in tangerine straps and some in smaller containers such as avocado crates, and even in cardboard cartons.

The Florida lime industry surely has a future; the fruit fits into the citrus picture. On account of limited localities where it can be grown prof-

itably, the fear of over-production can be laid to rest. More and more knowledge is being obtained. The usual percentage of fittest growers will survive—are surviving—and I believe the lime growing business will eventually be an important supplement to our great citrus industry.

FLORIDA SHOULD HAVE PLANT QUARANTINE STATION

A. H. Andrews, Estero

Time and again, Florida importers of tropical plants have been up against the discouraging experience of having these plants arrive in dead or dying condition after passing through quarantine with the Bureau of Agriculture in Washington.

This is not necessarily the fault of any official or officials in particular, but is rather due to the antiquated and impractical routine in vogue "since Hector was a pup" of requiring all tropical plant material coming by steamship from the ends of the earth to be shipped away north to Washington on arrival for quarantine inspection, after which it is shipped south again to the consignee in Florida. Little of this plant material is packed originally by experts and in the course of a long ocean voyage suffers much from drying out and the loosening of earth from the roots. Additional time consumed in shipment to and from Washington and detention in quarantine where the original soil is frequently washed from the roots, often results in loss of many valuable plants for which the consignee has paid good money, only to receive in the end a box of dried up sticks and rubbish. Many tropical plant seeds lose their viability within a short time and, due to delays in transit, also frequently arrive in worthless condition.

The remedy is simple if sufficient pressure can be brought to bear on the powers that be in Washington. Let the Bureau of Agriculture establish a tropical plant quarantine station at Chapman Field, just south of Miami, for the benefit of Florida plant importers and those in our island dependencies and possessions. Chapman Field is already a government experiment station under supervision of the Bureau of Agriculture, so that no special legislation would seem to be necessary in order to establish such a quarantine station there.

Aerial navigation has progressed by leaps and bounds until Mexico, Central and South America and the West Indies are now within close touch with the Miami terminal station, with regular schedules maintained, so that now as never before a wealth of tropical plant material is available to Florida horticulturists and plant lovers, provided some way may be found to overcome the vexatious delay imposed by present quarantine regulations.

Florida horticulturists and nurserymen should bring pressure to bear with our Representatives and Senators to have a plant quarantine station established at Chapman Field.

BUSINESS MEETING OF THE KROME MEMORIAL INSTITUTE

Upon motion, which was duly seconded, Dr. H. S. Wolf, of Homestead, Florida, was elected

Vice-president of the Krome Memorial Institute for the fiscal year of 1937.