

TROPICAL FRUITS—HOW AND WHERE GROWN

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Mr. President, Ladies and Gentlemen:

When I received notice that I had been appointed to write and read a paper before the State Horticultural Society on Tropical Fruits, I felt that the task was too great and that there are many members of the Society who are more conversant with this branch of horticulture and have had many years more experience along these lines than I. This I felt was especially true in the case of Mr. Reasoner, the honored chairman of this committee. A few days since I received a letter from Mr. Reasoner, asking that I prepare such a paper, I concluded to make an effort along the line and do the best I could.

In a paper which necessarily must have for its first essential ;briefness, it would be impossible to treat the almost numberless kind of tropical fruits, their value, commercially, and the methods of cultivation, hence we shall speak of only a few of the most desirable sorts.

First, let it be understood that we shall treat the growing of these desirable fruits in portions of the State where frosts and winter blizzards do not come with sufficient force to destroy the trees. A large majority of the purely tropical fruit trees, are very susceptible to killing frosts, indeed many of them are so tender that a frost that would seriously kill tomato vines would damage the trees to a greater or less degree, yet there are some that have great vitality and when cut down by cold, sprout from, the roots and soon come into bearing again. In sections where this condition is likely to occur, I would not advise planting tropical fruit trees commercially; but if I lived in a part of Florida where these frosts occur only at periods covering several years, there are varieties or kinds of tropical fruit trees which I would plant for family use, taking every precaution in case of cold to protect them. The four kinds I especially call attention to is the Avocado, Mango, and Paw-paw and Bananas, four of the most valuable fruits known to horticulturists, not only for the family table, but commercially, the commercial orchard being of the greatest moment.

WHERE GROWN.

Dade County and the Florida Keys, so far as I know are the only places where these fruits are grown commercially, in the State. In this I may be mistaken as I am not familiar with the country on the southwestern coast of Florida and the adaptability of either soils or climate for the production of these fruits on a commercial scale. If I am wrong it is an error of ignorance, not willfulness.

THE AVOCADO.

(*P.gratiasima.*)

Thirteen years ago when I came to Dade County, the Avocado was found growing luxuriantly around the homes of the early settlers in the rocky lands and in the sand lands in the northern portion of the county. The fruit was then unknown in the northern markets but was highly esteemed by the native population for food. We have heard it said that many of the natives made their breakfast entirely upon the Avocado, accompanied with a small piece of bread and a cup of coffee. It is claimed that it contains a larger amount of nourishment, than any other fruit known. As people came in from the North, they soon became as fond of the Avocado as the natives and each settler proceeded to plant a few seeds, to produce fruit for home use. Trial shipments were made to northern cities, especially to those which had a large Latin speaking population and it was soon found that there was a good demand for the fruit and each year the demand has increased. The great difficulty found in marketing the Avocado, was, that the trees were all seedlings and while the great majority of fruit was good and could be classed as better, best, (none poor) there were no two trees which grew exactly the same kind of fruit, in size, color and value for eating purposes. The more advanced horticulturists recognized the fact, that in a great measure the seedling Avocado was like the seedling orange or apple and efforts were begun to produce "known varieties." Another difficulty the pioneer had to encounter was that the maturing season did not cover sufficient time to make growing the Avocado, a commercial success. Mr. George B. Cellon, of Miami, who owns the only purely tropical nursery in the State, has the honor of discovering and propagating in large quantities, an Avocado known as the "Trapp." The original tree was found on the Trapp place at Cocoanut Grove. The distinctive value of the Trapp is that it ripens late in the season. This year a few specimens were exhibited at the Dade County Fair in March. This makes the Trapp the most valuable Avocado grown and the only variety that has been known to hold its fruit so late in the season. The prices received for the Trapp from December to the last of February are almost prohibitive to persons of ordinary means. To illustrate, Mr. Cellon has in his nursery rows a large number of young trees that are holding some fruit every season. For the past two or three seasons, he has had sale for all his fruit at home, at from 50 to 75 cents and sometimes reaching \$1.00 each, the parties driving to his place two and one-half miles from the city for them. This was the price unpacked and unwrapped at his door. Mr. S. B. Bliss, who owns the largest -budded Avocado grove in the world, sold his Trapps this season at from \$12.00 to \$17.00 per crate of four dozen f. o. b. and did-not have nearly enough to supply the demand. Mr. W. E. March, who was among the first to plant the Trapp disposes of his fruit to Hicks & Son, New York, for which he receives fabulous prices with a constant cry for more Avocados. Dr. Wetzel, of Cocoanut Grove, informed Mr. March that he received instructions to bill his Trapps out at one dollar each. Among the other valuable varieties grown here are the Pollock, which was originated by Mr. S. H. Pollock, of this city. Many of this variety weigh two and one-half pounds and some specimens have weighed three pounds. The fruit matures from July to October. The Rico, originated by Capt. C. J. Rose, Cocoanut Grove, season from August to November. The Blackman, originated by the writer. Samples of this fruit were sent to the Agricultural Department, Washington, D. C., and after a thorough test were pronounced the best Avocado ever tested by the department

and was named after the originator. Season from November to December.

SOILS

The Avocado will thrive well on any well drained soil, whether it be sand or rock. Those who are anticipating planting Avocados should remember this and not plant on low, wet ground. In the vicinity of Miami, the commercial orchards are planted on the rocky lands.

FERTILIZING.

The Avocado is a gross feeder and will utilize almost any kind of fertilizer manufactured, cotton seed meal or stable manure. On the rocky lands which are lacking in humus, perhaps well rotted stable manure is preferable, but this cannot be procured in quantities sufficient for growing a commercial orchard. The native people never used a fertilizer of any kind for their Avocado trees but experiments have demonstrated that a tree well fed and cultivated produces more and better fruit and of uniform size. We would emphasize the fact that the Avocado tree revels in high fertilization and as before noted, does not seem particular as to the kind of fertilizer used or what it is composed of. Generally speaking, in the rocky soils of Dade County, cotton seed meal is not considered a safe fertilizer, but the Avocado thrives on it when used in quantities.

MANGOES,

(Mangifera Indica)

Mango trees were among the first fruit trees planted in this tropical section. The first settlers came from Cuba, Nassau and other islands bringing with them seed which they planted in profusion around their new possessions. It was found that the mango made a more rapid growth came into bearing earlier than on the islands, and that the fruit was of better quality. Nearly or quite all of the original trees were produced from the wild jungle seedlings and were known as the turpentine mango. They were of various sizes, colors and shapes, the large flat seed encased with a mass of fiber, making the eating process a most disagreeable one, yet the jungle mango is a most delicious and palatable fruit. The writer has never yet tasted a poor mango and when the proper method of preparing the jungle mango for table use is followed, it is highly prized. For fear we may forget, we will give the method used in preparation for the table in our home. Peel the fruit, and then with a sharp, thin knife slice the mango very thin, sprinkle with sugar and place in the refrigerator for two hours, before serving. Great luscious Crawford peaches sink into significance beside a dish of mangoes prepared in this manner. The new comers to this southern section soon become as fond of the mango as the natives. Shipments began in a small way to the northern markets; but it was found that the fibrous conditions of the fruit was a great detriment to it and that unless a variety could be produced without fiber, the mango would never become a popular market fruit. The Agricultural Department at Washington, has taken a great interest in securing this kind of fruit, without the fiber, and all mango countries have been scoured and rescoured to secure choice market varieties without fiber. In this the Agents of the Department have been

highly successful. Among the choice varieties imported which have been fruited are the Bennett, which was introduced in 1902, from India, the Gordon, from Trinidad, West India, the Mulgoba introduced in 1889, the Sundasha, a later importation. The latter has been fruited in the United States Tropical gardens at Miami. All of these varieties have proven to be most excellent fruit, and practically fiber less. Among the native varieties is the Perrine, originated by Mr. James F. Roberts, of Perrine, Florida. There are a number of others which have been originated in this section, which have proven to bear fruit of exceptionally good quality. The original Mulgoba tree was sent to Mangonia, from which tree the greater portion of trees which are now bearing have been budded.

SOIL AND CULTIVATION.

The mango is a most hardy tree and flourishes on any well drained soils. At Mangonia, Palm Beach and other points in Palm Beach County the soil is light and sandy and whenever weather conditions are right the trees flourish and bear immense quantities of fruit and of splendid quality. In Dade County, where the soil as a whole is very rocky, the mango makes a phenomenal growth and is a heavy bearer. Budded trees are expensive and the average farmers, who are planting the budded varieties, are anxious to get the best possible results, giving the young trees extra good attention and fertilizer. Here is where a great mistake is made and it is safe to say that the greater portions of budded trees that have been lost by the planters have been lost by over fertilization. Experience is teaching the fact that budded mango trees for the first few years develop more rapidly when they are seemingly neglected. When thoroughly rooted a mango enjoys high fertilization as well as any tree that we have planted. Hard wood ashes have proven with us the best fertilizer for the young buds and this applied only in limited quantities.

THE MANGO AND AVOCADO.

These are the coming fruits for sections where they can be safely grown. We do not advise planting these fruits in portions of the State, where frosts are liable to come; but in all portions where the weather conditions are right, a commercial orchard of these fruits will produce more cash to the acre, than any known fruit. It is not to be expected that in years to come, Mangoes and Avocadoes will bring the fabulous prices that are maintained now, but the fact is there are such limited areas of Florida, where these fruits can be safely grown, that the demand will always be greater than the supply and consequently high prices will be the rule.

THE TROPICAL PAW-PAW.

(Carica Papaya.)

This at present is one of the least known fruits that is grown in this southern section and when its value as a fruit is understood, will make an unlimited demand for it, both as a table fruit and for medicinal purposes.

The paw-paw is really a melon that grows on a tree, with the fruit attached to the body. One of the greatest difficulties in growing the paw-paw is that there is no way of

distinguishing the male from the female tree, until it begins to bloom. Apparently there are many more male than female seeds in the fruit. I have been growing the paw-paw for the past several years and have had one or two male trees bear small fruits of good flavor. The trees fruit in about eighteen months after planting and continue to bear for several years, ripening one fruit at a time.

The paw-paw will grow on any soil that is well drained. Last year the writer lost two large trees by an overflow of salt water. Other trees standing by were not damaged, but have been fruiting throughout the entire season.

This fruit has only to be known in the northern states, when the demand for it will be greater than the supply.

THE SAPADILLO.

(*A Sapata.*)

The Sapadillo is another of the tropical fruits which in years to come will become popular in the markets of the North. So far there has been no attempt to improve the varieties and all trees are grown from the seed. It adapts itself to any kind of soil and is a free bearer. The skin is of russet color, some kinds having a tinge of red on one cheek. This is another fruit for which one must educate the taste before it becomes really enjoyable, but when once the taste is acquired there is a continual desire for more sapadillos. It is a good shipper, standing long journeys well.

THE BANANA.

(*Musa.*)

In this Southern portion of the State, the banana is being grown to a considerable extent commercially. For many years the people living on the Florida Keys have been growing this fruit quite largely for market purposes, their only market being Key West, where the fruit brought remunerative prices. Since Miami has become a city of commercial importance, the growers have found a splendid market for the output here. The soils on the Keys are, as a rule, very rocky. Indeed so much so that they are not cultivated as a whole. The rock formation is what is known as the "pot hole formation," the plants being set in the holes or cavities where there is some soil.

Since the extension of the Florida East Coast Railway to Miami and South, banana growing is assuming greater proportions and many have, and are planting for commercial purposes. One planter in the Homestead country has less than an acre planted from which he has sold this season four hundred bunches at one dollar per bunch.

SOILS WHERE GROWN.

Perhaps there is no other tree or plant which will flourish on all sorts of soils, from the richest mulck to the most ordinary pine lands, as the banana. Seemingly it rejoices in a

rich, black alluvial soil, yet at the same time on the poorest sand lands, by the aid of fertilizers and water it seems to flourish equally as well. The dwarf or smaller varieties thrive better on the sand lands than the larger and coarser kinds. It is believed from the experiments thus far made, that banana growing in the near future will become a most important factor in this Southern clime. Cotton seed meal or almost any kind of well balanced fertilizers are utilized readily by these plants.

OTHER TROPICAL FRUITS.

There are a large number of other kinds of tropical fruits which have been and are being grown in this Southern territory which so far have not proven of commercial value; but many of them should be planted for the fruit for home use and for decorative plants. Among these are the Kai-apple, (*Aberia Caffra*,) Carissa, (*Carissa pappaya*,) Star-apple, (*C. Cainito*,) Cocoa-Plum, (*C. Niger*,) Sour Sop, (*A. Murieata*,) Rose Apple, (*E. Jambos*,) Sea Grape, (*C. uvifera*) Barbados cherry, (*M. glabra*) Maumee Sapota, (*L. Mammasoa*,) Ceriman of Trinidad (*M. deliciosa*.) This is but a small list of the real tropical fruits which may be grown in the portions of the State where frosts do not occur. Nearly all of the above lists are being grown in the vicinity of Miami and several of the most rare kinds of these fruits were exhibited at the Dade County Fair which was held in March last. While many of these fruits will never be of commercial value, they are very palatable and should be grown.

The pineapple, guava and other fruits are not mentioned in this paper as they are being grown extensively in many portions of the State.