

# Report of Standing Committee on Pineapples and Other Tropical Fruits.

## MANGOES.

BY PROF. P. H. ROLFS.

*Mr. President, Ladies and Gentlemen:*

Among the tropical fruits that are being introduced into Florida, no one is more certain to make a definite impression upon the market than the new mangos. The fruit produced by the mulgoba exhibits such a character that it will push its way into the market were it to compete with peaches; but fortunately it ripens just ahead of that crop, and so we will not be thrown into actual competition with this luscious fruit. The mulgoba budwood can now be had in almost any quantity that any one desires in Florida. There is still some difficulty experienced in propagating and setting out the trees. From my experience in this matter I am inclined to believe that we shall have to adopt methods for the propagation and setting out of these trees that are radically different from those practiced in setting out citrus trees. As citrus growers we are apt to make this our standard, and anything that does not conform to the methods of procedure that we have adopted for growing citrus trees is considered to be extra difficult, or else not worthy of attention. We are also apt to draw a long breath when the nurseryman confronts us with a price for these trees that is probably ten times as high as that of citrus trees. Here again we allow our standard to interfere with our business methods. We should re-

member that mulgoba trees are really rarities.

### PROPAGATING.

Budding of mangos is not only possible but may be done profitably. The mango nursery, however, must be radically different from that of the citrus nursery. For general purposes I think the methods advised by Mr. John B. Beach, and which he has published repeatedly in the agricultural papers, and also in addresses to the Horticultural Society, are probably familiar to every one here, so I will not take them up again at this point.

### AREAS ADAPTED TO MANGOS.

If we will examine the map of Florida we will see that all of that area on the East Coast south from Mangonia and on the West Coast south from Caloosahatchee River, is adapted to mango growing. In addition to this general area there are isolated areas to the north of this in which mangos can be grown with a fair degree of assurance that crops will be obtained. Several years ago a considerable number of mango trees were fruited in the vicinity of St. Petersburg. In this region there are trees sufficiently large to produce a considerable quantity of fruit. Various places on the Manatee River are also quite certain to produce paying quan-

tities of mangos. I will not attempt to enumerate further the isolated localities where mangos may be grown. To a large extent this will have to be determined by actual experiments. In a general way we may say, however, that wherever citrus fruits may hang on the tree all the winter and never become frosted it will be possible to grow the mango. This definition for a region in which mangos can be grown should not be taken too strictly as we know that under certain peculiar conditions a few citrus fruits pass winter in orchards where the greater bulk of the fruit is frosted.

We are hopefully looking forward this year to the fruiting of Alphonse mangos. This variety is said to be very much better than the mulgoba. To us who have eaten the mulgoba, however, this sounds like sweetening honey or perfuming the rose.

#### MANGO RACES.

The mango, so far as I have examined the fruits critically, seem to group themselves into the following races: 1st, The Number Eleven; 2nd, The Pineapple; 3rd, The Manilla; 4th, The Apricot-Apple; and 5th, The Bombay.

First. The Number Eleven group, which is composed of seedlings running to well-marked varieties, is early ripening, flat fruit, and long tapering fruit, weak fibre, but profuse; color, pinkish or reddish. Tree tall upright growing. The leaves medium smooth and veining not prominent. Stigmatic area even. Skin medium and not tough.

Second. The Pineapple group, is early ripening. Leaves medium, smooth and veining not prominent. Stigmatic area prominent early ripening. The fruit medium size, tapering to obtuse point at

stigmatic area; fibres medium, profuse; color light orange with strawberry cheeks; skin medium and rather strong.

Third. The Manila, which is said to be the same as the Philippine of Cuba, ripens early; flat fruit; tapering; long; fibres very weak and scanty. Color, lemon or a little darker. It ripens about the same time as the pineapple, and many hybrids, and all intergradations were seen, but the two types are very distinct. Skin very thin but tough.

Fourth. The Apple-apricot group contains a number of named varieties. The tree is of a low, spreading growth. Leaves rather short. Fruit ripens late. Very full at side. Very short. Stigmatic area well up on ventral side. Color uniform yellow; between orange and lemon. Fibres very coarse and strong, though scattered. Skin thick and tough.

Fifth. Bombay, including mulgoba. Late ripening; fruit short for its diameter; sides very full; stigmatic surface well up on ventral surface; frequently grooved along lower portion of ventral surface; fibres scant and very weak; confined mostly to ventral and dorsal sides; skin very thick; not leathery; ground color, green turning to yellow with rosy cheek. The tree is a vigorous grower and is between upright and spreading, and the leaves are rather small and rigid with the veins prominent.

#### AVOCADOS.

For a money crop in the sub-tropical region of Florida, this has a very promising outlook. During the last five years a very great amount of work has been done in systematizing the varieties and in working up the methods of propagation. In connection with this work, I may be allowed to say that among

the avocados as among the citrus varieties, we strike some that are particularly difficult to bud, and others that take very readily. Buds of the Chapellow avocado live with the greatest ease. The Trapp avocado does so somewhat less readily; the Pollock buds fairly easily, and the Baldwin requires considerable attention to work well. The family avocado is one which begins to ripen in July, and continues to ripen its fruit until late in October and November. It should not be planted for commercial purposes, but is one well worth having at the home place.

#### TRANSPLANTING.

Lately a great deal has been said about the difficulty of transplanting avocados. Just why this should occur, I do not know. I know that a certain disease occurs upon the young trees, which is especially apt to strike in at the point where the stock is cut off. This difficulty can be avoided to a considerable extent by waxing over the stock at this point when it is cut off, or by painting it over. Then the shock of transplanting is apt to prove somewhat severe and the tree apt to die back to the bud. In my own field there seems to have been no difficulty in planting avocado seedlings. As a matter of fact, I have turned this work over to colored labor, and the success met with has been somewhat better than the experiences in having colored labor set out citrus trees. From my experience in this matter I am inclined to believe that there is no greater difficulty in having avocados set out than in having citrus trees set out.

#### SAPODILLOS.

This is one of the fruits that originated in the Western Hemisphere. In

fact, it has not been domesticated in the true sense of the word. A few seedling trees have been planted out in the Antillean region, which includes the West Indies, the eastern portion of Mexico, the eastern coast of Yucatan, and in the southern portion of Florida. They also occur as native trees down through the central portion of Mexico, and I believe in South America.

This species adapts itself to cultivation very readily. The number of varieties, however, are about as great as the number of seedlings that come into bearing. In the Miami and Key West market a very careful distinction is made between the better and the inferior fruits. In Miami some of the largest and finest of this fruit sell for high as ten cents apiece, and the smaller varieties one can frequently buy at ten cents a dozen. Systematic work at propagating and improving sapodillos has already begun at the Subtropical Laboratory.

The region through which sapodillos may be grown successfully, is practically coincident with the region where the mango may be grown.

#### CERIMAN.

(*Monstera deliciosa*). This plant belongs to the peculiar family of aroids which includes the calla lily, the tania and various other tropical species the roots of which are used for food. This plant has been grown for a number of years and fruited in the vicinity of Miami; also at Mangonia. In the conservatories of the North, it has also been fruited repeatedly. In the regions where only a little frost occurs, and freezes are never known, this plant can be grown successfully under a pineapple shed. It produces a creeping trunk that is about four inches in diameter, and if permitted,

will grow on the wall to the top of the highest conservatories. In such positions the trunk is rarely more than one and one-half to two inches in diameter. For fruiting purposes, however, it is better to prevent the vine from climbing at all. Under pineapple sheds it blooms profusely, and it fruits rather abundantly. Every bloom is almost certain to make a fruit.

#### PROPAGATION.

For propagating purposes the trunks are cut into segments in such a way as to leave an eye on each segment. These segments are planted out and struck with a fair degree of success. In the course of two or three years, if these plants are well cared for; they will produce fruit. It is about 14 months from the time of blooming for the fruits to ripen.

#### TYESS.

This is also sometimes called egg-fruit. No systematic effort has yet been made to bring this fruit into the best state of cultivation. Only seedling trees have fruit and the product of these is exceedingly variable—good, indifferent, and bad, I think the extreme of inconsistency was met in this fruit in the tree which was fruited by Prof. Gale, at Mangonia. This tree fruited abundantly and gave a fine-looking specimen. Some of them were sweet and delicious, other fruits from the same tree were only indifferent, and some of the fruits growing on the same tree, and taken from among the good fruits were extremely bitter. Even the same fruits were somewhat variable; one side being quite palatable while the other side would be distinctly bitter.

## THE LOSS OF PLANT FOOD IN PINEAPPLE AND OTHER COARSE SANDY SOILS.

BY A. W. BLAIR.

*Mr. President, Ladies and Gentlemen:*

A very interesting point which has been brought out by the pineapple fertilizer experiment, is the great discrepancy between the amount of plant food applied to an acre of pineapples and the amount that is actually removed by the crop taken from an acre, including fruit, slips and suckers.

#### AN UNBALANCED ACCOUNT

To illustrate, we may first take one of the plots from the experiment, which has been fertilized at the rate of 3750 pounds

per acre. This plot received annually one pound of actual phosphoric acid, one and one fourth pounds nitrogen and two and one half pounds of actual potash. Multiplying these figures by 150 (the plots being 1-150 of an acre in size) gives to one acre 150 pounds of actual phosphoric acid, 187 1-2 pounds of nitrogen and 375 pounds of actual potash, or 712 1-2 pounds of actual plant food in one year. Now, if we allow that this acre produces 500 crates of pineapples, each weighing 70 pounds net, the amount of plant food removed by this 35,000 pounds of fruit would be, as calculated from the