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Tropical Fruits, Other Than Pineapples.

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To the Florida Horticultural Society,

Ladies and Gentlemen:

The past winter having been so steadily cold, (said to be 6 degrees below normal) was peculiarly trying on tropical growth, and all fruit trees passing through such an ordeal should have our attention.

In the Manatee section generally protection is a necessity for the production of tropical fruits, although there have been in the past many mangoes, tamarinds, avocado pears, sapodillas, etc., produced as far back from the coast as thirty miles without any protection, the trees reaching a large size. Guavas bear more or less almost every year but the past season's cold killed all out in the open.

Shedding is then the only safe method left for us in frosty locations, and after three winters' experience we find such management easy, only requiring ordinary watchfulness and supplies of fuel for emergencies.

The following trees or large shrubs are especially suited for growing in a shed, and have all been found to with stand "cold feet" without damage. The mango in all varieties, avocado pear, sapodilla, leechee, cherimoya, Surinam cherry and other Eugenias, Egg-fruit (or Tiessa), guava in all varieties, Otaheite apple (Spondias) and several others not so well known. During severe cold all that is necessary is to keep such trees from actually freezing, a higher temperature than 35 or 40 degrees being useless. The temperature may be raised in various ways; open fires, stoves which carry out smoke and keep the cloth cover clean, and spraying with clear water; our well water being always warm is an easy source to get warmth into a house of trees or plants. A system of piping and spray nozzles, force pump, etc., is of moderate cost.

We record the blooming and fruiting of the famed Chinese leechee this season; has it ever been known to bear in Florida before?

Bananas are raised in the open air by almost every planter, but the choicest Indian varieties are too tender for our latitude. We depend on the Hart's Choice and Orinoco which stand cold better than any known sorts and fruit through summer and autumn even if severely frosted the previous winter. It would scarcely pay to shed pineapples in our climate, yet we hope that suitable fruit trees will be freely grown all over South Florida either under protection or in frostless localities in the open air.

Mr. A. A. Boggs, of Dade County, of this committee, has sent in a valuable paper which follows. (We very much regret Mr. Boggs' inability to be with us at this meeting.)

REPORT BY A. A. BOGGS.

Last September, at the meeting of the American Pomological Society, at Buffalo, the writer ventured the assertion that the discovery of a practical means of budding or grafting the mango and the avocado pear would mark an epoch in American horticulture. This epoch seems now to be upon us. It behooves us, perhaps, to triumph with caution until the newly propagated plants shall actually have been fruited, but with the hundreds of vigorous growing examples of the new methods before our eyes it hardly seems possible that there shall yet be a slip twixt the cup and the lip.

BUDDING THE MANGO.

It is noteworthy that, as in the case of many other important scientific and industrial puzzles, two independent solutions have been discovered within a very short interval of time. The first we owe to the untiring labors of the venerable Professor Elbridge Gale, of Mangonia. His method is, in brief, to sustain life in the scion during the process of union which is so slow in the mango that ordinary grafts will die before uniting, by leaving a long base of the scion to project into the ground below the point of union which is always about the surface of the ground.

The stock is cut at the surface of the ground and split as for a whip-graft. A face is then cut on side of scion, and a tongue raised within it. This face is then brought against cut surface of stock, cambium layers joining, the tongue inserted in cleft and the whole bound with waxed cloth, leaving the lower end of scion to project six to twelve inches into the earth and to be kept moist. This method is wholly original with Professor Gale, and is a real contribution to horticulture, for it will unquestionably prove effective in many stubborn cases where ordinary methods fail. It is a great advance over the old method of inarching, upon which mango propagators have hitherto relied, both in point of cheapness and rapidity. Even in the absence of any other practical method we might claim that the problem was fairly solved.

ANOTHER METHOD.

But another method has been brought forward by Mr. G. B. Cellon, of Miami, which simplifies the question still farther. This gentleman has demonstrated that the old method of "patch-budding" can be applied to the mango and avocado with perfect success, at least in hands as expert as his own, and with a speed not greatly inferior to that of the ordinary shield-bud process. I append a short communication from Mr. Cellon himself, descriptive of his operations and results.

There can be no question that the solution of the difficulty in propagating these fruits true to variety has opened to the people of extreme South Florida a new and brilliant field of horticultural endeavor, and offers prospects of the most attractive sort.

The mango is valued as the queen of fruits where it is known. In its finest development it is far superior to the peach, which is its nearest competitor. There is at present only one of these best varieties in cultivation in the United States. This is the Mulgoba, of which there is an imported inarched tree in the possession of Prof. Gale, and some hundreds

of buds, grafts and inarchings from it, scattered from Jensen to Cutler on the East Coast. This fruit is of rather large size, kidney shaped, green in color with a pink cheek, tender and melting in flesh so free from fiber that it can be eaten at table with a spoon, and of a rich and most exquisite flavor, not comparable with that of any other fruit. Commission men and fruit experts who have tested it are enthusiastic and unanimous in their opinion that such fruit will conquer the American market on its merit at first sight. So far the writer has seen no other mango fit to be classed with the Mulgoba. The Number Eleven etc., from Jamaica seed, so far as they have been fruited here have proven worthless. But the Mulgoba is only one of many superior sorts known in India and Ceylon. The Department of Agriculture has recently made several importations of trees and scions of choice varieties from the East but with very moderate success. There is one small tree of the Sundashaw now growing on the grounds of the Experiment Station at Miami which is probably the only survivor of several shipments. It is earnestly hoped that this Society will take action to urge the importance of this matter upon the government authorities. There are several established types of mango in Florida which seem promising subjects of experiment, but our best hopes come from the East.

AVOCADO PEAR.

Of equal promise and of greater present market importance is the avocado pear which is today the most costly fruit on the American market, and is making more friends every season. The importance of budding and grafting as applied to this fruit is not so much the securing of better varieties from abroad, for Florida now produces the best in the world, and in eliminating the inferior sorts which form a large proportion of seedling orchards, and in regulating by selection the season of fruiting. There are now trees in Dade county as early as July 15th and others as late as January 15th. The significance of this fact needs no comment.

Choice avocados retailed last season at from 35 cents to 75 cents each, in the cities, and the demand seems to outgrow the supply. It is urged that this Society in its catalogue should encourage the use of the name avocado, both on the score of correctness and of euphony, in place of the absurd misnomer "alligator pear" which leads to many mistakes.

OTHER TROPICAL FRUITS.

There is little new to say about the other tropical fruits. The culture of the banana does not appear to spread rapidly owing to¹ the scarcity of land of the proper moisture and fertility. It is probable however that the great rich prairies about Cape Sable will some day produce immense quantities of this popular fruit.

The guava maintains and extends its sway as the chief of all jelly-fruits, but beyond some rather vague efforts at improvement by selection not much effort has been spent upon it in a horticultural way.

The cherimoya is a delicious fruit, and deserves more attention than it receives. Of delicious flavor and not unattractive in appearance, it has the great merit of coming into

market in May, when fruit is scarce. The sugar apple is less attractive in quality—at least to strangers. The sour-sop proves too tender for unprotected culture on the mainland.

The sapodilla is, to its friends, a delicious fruit and has managed of late years to extend the circle of its admirers so much that it has a considerable market. It may one day attain considerable economic importance.

There is a wide and promising field for experiment in these and other little known fruits but the foregoing would seem to comprise all results positive enough to report upon at present.