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MAMEY SAPOTE CULTIVARS IN FLORIDA^{1,2}

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Abstract. Recent planting of commercial orchards of the mamey sapote, *Calocarpum sapota* (Jacq.) Merr., in southern Florida has stimulated local interest in cultivar improvement. There is much variation among seedling trees in fruit quality, fruit size, productivity and season of maturity, as well as some confusion about cultivar names. Presently in cultivation are the cultivars 'Copan', 'Magana', 'Pantin' and 'Tazumal'. Other selections being tested include AREC No. 3, 'Chenox', 'Cuban No. 1', 'Francisco Fernandez', 'Flores', 'Mayapan' and 'Progreso'. This paper summarizes currently available information on the characteristics of mamey sapote selections in Florida.

The status of the mamey sapote has changed rapidly in recent years. Although this tree has been grown in home gardens and experimental plantings in Florida since the mid-1800's (2), it was not until 1970 that Campbell (3) reported the planting of a few small orchards of mamey sapote in Florida and increasing interest in more extensive planting. Since then, orchard development has continued and presently there are several plantings of 5 to 30 acres and many small orchards of 0.5 to 3 acres, for an estimated total of about 150 acres. In addition to commercial orchards there are thousands of trees planted in home gardens. Most of

these plantings are in Dade County, but there is increasing interest in planting in other warm areas of the state.

There were no vegetatively propagated cultivars in Florida until the 1950's (1, 3, 6). Vegetative propagation is difficult, but is now done routinely in several Florida nurseries (4, 5). Concurrent with the increase in orchard plantings has been an increase in the number of superior selections in Florida. Several of these are available in the nursery trade. In some cases there is confusion about correct names and characteristics of selections. The objective of this paper is to summarize the available knowledge of mamey sapote cultivars in Florida for the benefit of those interested in growing this fruit.

Procedure

Testing of mamey sapote at the University of Florida Agricultural Research and Education Center, Homestead (AREC Homestead) began in 1932 with the receipt of seeds from Havana, Cuba. It has continued to the present with 20 accessions of seeds and 10 accessions of vegetatively propagated selections. These were grown at various locations on the grounds of AREC Homestead and at other locations in southern Florida.

In 1975 a new, replicated planting of grafted trees of several selections was made at AREC Homestead. It included 10 trees each of 4 selections made from seedling trees at AREC Homestead and 2 cultivars obtained from other sources (Table 1).

The trees received regular uniform applications of fertilizer and micronutrients, irrigation from a trickle system, and frost protection from an overhead sprinkler system. Data were taken on vegetative characteristics of the trees, fruitfulness, fruit characteristics, season of bloom and fruit maturity season.

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Table 1. Characteristics of mamey sapote selections in replicated planting, AREC Homestead, 1975-1982.

Designation	Fruit maturity season	Fruit size	Pulp color	Flavor	Tree Habit
'Copan'	July-Aug.	425-900 g 15-32 oz	Red	Excellent	Medium, spreading
'Magaña'	April-May	740-2400 g 26-85 oz	Pink	Good	Small, slow growing
'Mayapan'	July-Aug.	510-1135 g 18-40 oz	Red	Good	Tall, upright
'Pantin'	July-Aug.	400-1130 g 14-40 oz	Pink to red	Excellent	Tall
'Tazumal'	Jan.-Feb. July-Aug.	400-850 g 14-30 oz	Pink	Good	Medium
AREC No. 3	July-Sept.	400-740 g 14-26 oz	Pink	Poor to good	Medium

In addition to the observations at AREC Homestead, observations were made in the mamey sapote plantings of private growers and nurserymen.

Results

Seedling trees survived to maturity from foreign introductions made in 1938, 1940, 1946, 1949 and 1950. From these trees, 4 apparently superior selections were made for further testing. Three of these were deemed worthy of propagation as cultivars and were given the names 'Copan', 'Mayapan' and 'Tazumal' after Mayan cities which now exist as ruins in Honduras, Mexico and El Salvador, respectively. This was done at the suggestion of the late Dr. Wilson Popenoe, to recognize the importance of the mamey sapote to the people of the Mayan civilization of Central America and the part those people played in the development of the fruit.

Some characteristics of the 6 selections in the replicated planting at AREC Homestead are presented in Table 1. Additional information on those selections and others from the general plantings at AREC Homestead and other locations is given below under the name of the cultivar or selection.

'*Copan*'—This cultivar was tested originally as "AREC No. 1". It originated as a seed received from Cuba in 1938. The tree was planted in the field in 1940. Additional grafted trees were planted in 1975. Trees are now available in the nursery trade.

The fruit has one seed. The grafted tree takes 2 or 3 yr after planting to begin flowering and fruiting, but thereafter bears good crops. The leaves turn red when cool weather commences in December and then gradually turn brown and remain so until they fall from the tree the following spring.

'*Magaña*'—One tree was grafted from budwood received in 1961 from El Salvador. The tree was planted in the field in 1962. Additional grafted trees were planted in 1975. Trees are now available in the nursery trade.

The fruit is very large and has one large seed. The tree is precocious, often blooming and fruiting the first year after planting. It bears large crops regularly. These characteristics may account for the relatively slow growth and small stature of the tree. Some trees have gall-like growths on the trunk or branches. The cause of these has not been determined. The leaves on the tree remain green during the winter in Florida.

'*Mayapan*'—The original tree was grown at AREC Homestead from seed received from the Isle of Pines, Cuba, in 1940. It was first tested as 'AREC No. 2'. Additional trees were grafted and tested at AREC Homestead and other locations in Dade County.

The fruit has one seed. There is some fiber in the pulp, but not enough to be objectionable. The surface of the fruit is dark brown and very scurfy. The tree is relatively slow to bloom and bear fruit after grafting, but it bears well after a few years.

'*Pantin*'—Graftwood from a seedling tree at the fire station in Key West was obtained by the Pantin family of Miami in 1956 (Don Pantin, personal communication). The cultivar has been in the nursery trade for several years. This cultivar has been called 'Key West' by some people.

The fruit has a single seed. There is no fiber in the pulp. The grafted tree grows slowly and produces few fruit for the first 2 or 3 yr, but thereafter it grows faster and bears

good crops regularly. The leaves turn brown during the cool months of the year.

'*Tazumal*'—This cultivar originated as a seedling plant received at AREC Homestead from El Salvador in 1948 and planted in the field in 1949. Additional trees were grafted and planted in 1975. The selection first was called 'Prolific' because of its consistent heavy bearing, but it was decided not to use that name because of possible confusion with the 'Prolific' sapodilla, a fruit of the same family. Trees are now available in the nursery trade.

The fruit has one or 2 seeds and is very sweet. The tree grows fast and bears large crops regularly. The leaves usually remain green during the winter.

AREC No. 3—This selection has not been given a name because its quality probably is not good enough to justify acceptance as a cultivar. The original tree was grown at AREC Homestead from seed received from the Isle of Pines, Cuba, in 1940. Additional trees were grafted and tested at AREC Homestead.

The fruit has 3 to 4 seeds, and pulp with no fiber. Fruit production is fair. The selection could be of value to nurserymen who wish to produce a supply of seeds for growing rootstock plants.

Other Selections—Mr. Lawrence Zill of Boynton Beach has introduced and propagated 2 cultivars from Belize. These are 'Chenox' and 'Progreso'. Grafted trees are being tested at different locations, including AREC Homestead.

The 'Francisco Fernandez' was selected in Cuba and introduced to Florida by Mr. Francisco Fernandez of Miami.

Mr. Tom Economou of Miami introduced graftwood of a selection from Guatemala to AREC Homestead. He proposed that it be called 'Flores'.

Graftwood of 'Cuban No. 1' was introduced from Cuba in 1955 by Mr. W. F. Whitman of Bal Harbour (1). This cultivar was selected in Cuba by Ing. Filiberto Lazo for its large fruit of good quality. It has not borne fruit well in Florida when grown in isolation. There is some indication that production is better when 'Cuban No. 1' is grown near trees of other selections.

Other mamey sapote selections are known to exist in Florida, but information about them is not available to us at this time.

Conclusion

New selections of mamey sapote are being made in Florida and introduced from other countries at an increasing rate. This information is offered as the beginning of a systematic, continuing appraisal of existing cultivars. The mamey sapote is a welcome newcomer to the tropical fruit industry of Florida and promises to increase in importance in the future.

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