

cropping season could be important for the use of this fruit in both large-scale production systems and small-scale sustainable systems within the tropics and subtropics. Under other climatic conditions there may be more distinct production times as a result of prolonged dry periods or other climatic factors. Yield data are lacking for all of the selections due to the damage from Hurricane Andrew and lack of resources. Currently, yield data are being collected to better assess their potential yield and production season. The production information presented above is only for general comparison among the selections.

Previous authors have clearly detailed the potential of the canistel for the tropical and subtropical regions of the world (Fairchild, 1943; Martin and Malo, 1978; Morton, 1986; 1987). However, without definitive data on the quality, yield potential and horticultural characteristics of clonal selections, management decisions are difficult. Future research is needed into storage, shipping, marketing, and potential uses

of the canistel in processing. Only then can the canistel become more than just another tropical fruit with potential.

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## 'DOT': A GOURMET MANGO CULTIVAR FOR THE HOME GARDEN

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**Abstract.** Florida has been the selection site for quality mango cultivars over the last several decades, including many which never received wide distribution due to a lack of commercial attributes. 'Dot' is one such cultivar selected by Lawrence Zill from a 'Carrie' seedling planted in Boynton Beach, FL. The pollen parent is unknown. 'Dot' forms a medium-sized, open canopy, typically with a slightly yellow or light green leaf color in comparison with other mango cultivars. The fruit range from 260 to 550 g, with an average size of 400g. Fruit size is variable within an individual tree; however, the small fruit develop normally. The fruit are attractive, with a bright yellow ground color and a pink to light red blush. The flavor is rich and aromatic with a high sugar content (18-22°Brix) and fiberless flesh. In public taste evaluations, 'Dot' consistently scores among the top for overall flavor. In South Florida the fruit ripen over an extended season (5 weeks or more) in mid-summer. Anthracnose (*Colletotrichum gloeosporioides*) infection can limit production in some years, but generally an acceptable crop is obtained without fungicide applications. Exact yield data are not available, but production in cultivar collections with a chemical disease control program is comparable to, or better than 'Glenn', while inferior to the commercial cultivars 'Tommy Atkins' and 'Keitt'.

During this decade there have been major changes within the global mango industry; namely, a steady increase in the production and exportation of highly-colored (red) cultivars destined for sale within the countries of the European Com-

munity, the Orient and the United States (Báez-Sañudo y Bringas-Taddei, 1995; Campbell and Bernard, 1994). As a result of this steadily increasing supply, the mango has become a consistent and affordable commodity for consumers within mainstream marketing channels of these countries and there has been a general increase in the exposure to, and interest in this fruit. The mango cultivars which comprise the export industries of the world were largely selected in South Florida over the past 50 years (Campbell and Campbell, 1993; Young and Sauls, 1978); yet, many selections were discarded during this period of selection because they were judged unsuitable for commercial production. Often, these cultivars were superior in terms of flavor and overall quality, but could not be commercially exploited due to their color, disease resistance, production or storage characteristics.

At present, the combined effect of an ethnically-diverse populace, increased availability and exposure to the mango, and promotional efforts like Fairchild Tropical Garden's International Mango Festival (held in July each year in Miami) have served to develop a greater consciousness of mango cultivar diversity. In South Florida, where the mango has historically been a popular home garden fruit tree, the result has been increased planting of high-quality mango cultivars in the home landscape. This activity offers an important market for local tree nurseries. The heightened consciousness and consumption of high-quality mango cultivars may also raise the acceptance of these cultivars in mainstream marketing channels within the United States and beyond. The objective of this paper is to describe one such mango cultivar, 'Dot', whose outstanding internal quality characteristics uniquely suit it for use in the home garden.

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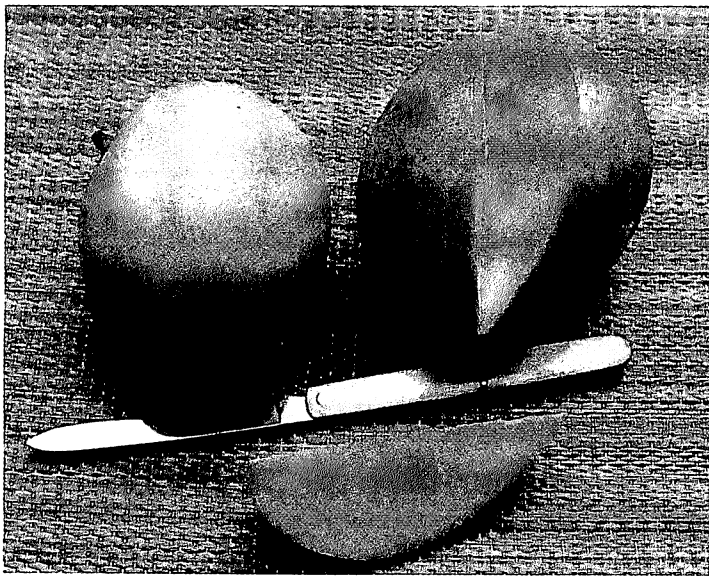


Figure 1. The 'Dot' mango.

### Cultivar Description

'Dot' is reported to be a 'Carrie' seedling, originating at the residence of Mr. Lawrence Zill, Boynton Beach, FL. The pollen parent is unknown. It was named after his wife, Dorothy Zill. The tree is moderately vigorous, with an open and spreading growth habit. The tree typically has a yellow leaf color even when receiving proper horticultural care. The fruiting season in South Florida extends from June to August. Fruit shape varies greatly within an individual tree and between years. Typically, fruit are oval to ovate, with a flattened to rounded base and a stout stem inserted squarely in a level manner (Fig. 1). The apex is bluntly pointed to rounded with no beak. The surface is generally smooth, but may be irregular in some years. The fruit are 7.5 to 11.5 cm in length, 6.5 to 8 cm in breadth and 5.5 to 7 cm in thickness, with a weight of 260 to 550 g. The fruit are attractive, with a bright yellow ground color and sometimes a pink blush. There are typically many russet dots covering the fruit surface. The skin is medium thick, tough and easily separating.

The flesh is medium firm, juicy and deep yellow to orange with little to no fiber. The flavor is rich, aromatic and sweet, with a strong, pleasant aroma. Brix values range from 18 to 22. The stone is thick and woody with a monoembryonic seed filling 50 to 70% of the stone. The bloom and fruit are susceptible to anthracnose (*Colletotrichum gloeosporioides*) infection, leading to significant yield reductions in most years in South Florida and significant infection of both developing and mature fruit. Yet, acceptable production is obtained within home gardens without the use of a chemical disease control program. There is little information available on storage or long-distance shipping of 'Dot'.

### Discussion

'Dot' was propagated for a few years following its selection by Zill's Nursery, but was discontinued due to its disease susceptibility and poor color. However, some grafted trees were sent to Mr. Frank Smathers, Jr. in Miami, where they were grown and multiplied on his property. Mr. Smathers was favorably impressed by the overall flavor, sweetness, productivi-

ty, ability to mature and remain on the tree, and appearance of the 'Dot'. He promoted this fruit for a number of years through local fruit enthusiast societies and by direct shipment of fruit to both local and out-of-state acquaintances. Starting in 1992, 'Dot' has been a featured mango cultivar at Fairchild Tropical Garden's International Mango Festival due to its consistently superior flavor ratings and general public appeal. As with any fruit, there are those who appreciate the flavor and others who do not, but in public evaluations 'Dot' consistently scores among the top ten mango cultivars in South Florida in terms of eating quality. Also, under the growing and management conditions used within Mr. Smather's orchard and Fairchild Tropical Garden, the fruit are attractive, have a long production season and are reasonable productive. With increased public demand, 'Dot' is once again being propagated on a small commercial scale in Florida for home garden use.

The changing face of the global mango industry has forced drastic changes in the Florida mango industry. Low market prices during peak production times, land use issues and production costs have combined to make commercial orchard production of mangos a questionable economic endeavor in South Florida. The industry is in transition to a local and niche market role, one which avoids direct competition with production areas such as Mexico, and will hopefully provide an economically-viable option for the grower. However, it is important to note that the sale of trees for home garden planting in Florida is at present a viable economic industry which shows no sign of weakening. On the contrary, recent years have seen an increase in the number of trees planted for this purpose (G. Zill, personal communication), and 'Dot' serves in this role in spite of its shortcomings in terms of color and disease susceptibility. With minimal horticultural care, a homeowner can produce reasonable harvests of high-quality fruit over a period of 4 weeks or more.

In South Florida, there are many cultivars available for the home garden, offering exceptional yield, color, disease resistance and storage life. It bears emphasis that 'Dot', while lacking in terms of some of these criteria, has been embraced by the general public largely due to its superior flavor. In other climates with lower humidity and rainfall, 'Dot' may even have commercial potential on the same basis. Within Egypt, for example, mangos are consumed on the basis of their internal quality, with public acceptance of the predominantly green or yellow fruit. Following exposure to 'Dot' in Florida, it was identified by Egyptian researchers as having potential for their country due to its outstanding internal quality (S. El-Agamy, personal communication). However, in order to adapt 'Dot' for commercial production, there is a need for research into proper production techniques, culture and storage.

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