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THE 'VAN DYKE' MANGO

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History

The earliest records we were able to find on the 'Van Dyke' mango were in the files of the Variety Committee of the Florida Mango Forum. They contain the original description form, quality evaluations dated June and July, 1955, and background information from W. W. Carmichael of Perrine, Florida. The original tree grew from seed of unknown parentage at the residence of Mrs. Madelin Van Dyke in Miami, Florida. It was estimated that the tree had borne fruit for 10 to 15 yr., indicating that it probably had been planted in the 1930's. By 1955, several hundred grafted trees had been sold by the Flagg Brothers Nursery in Miami, demonstrating that the 'Van Dyke' was considered to be a desirable selection.

This cultivar did not attract much attention from commercial growers in Florida during the 1950's, and it was not described in the research and extension literature of that decade (2, 3, 5). Trees were sold for commercial planting in Dade County by the Zill Nursery in the early 1960's. It was generally recognized that the 'Van Dyke' fruit had excellent color, relative freedom from disease, and good eating quality but Florida growers were slow to accept the cultivar, because the size of the fruit was considered too small for the U.S. market. Nevertheless, several small commercial plantings were made in the 1960's and some larger ones were made in the 1970's and 1980's. During that same period the 'Van Dyke' was introduced to other countries of the tropics for trial. Today some fruit is exported from South America (Brazil) and eastern Africa to Europe, where it appears to be well accepted.

Description

'Van Dyke' trees are vigorous, with an open, spreading canopy. Trees which have been topped and hedged periodically will develop a more dense, compact canopy than unpruned trees. In Florida, trees begin to bear fruit 3 to 4 yr after planting and will produce regular crops thereafter if they receive good care and are not injured by freezes or hurricanes.

New tender leaves are light green in color, becoming leathery in texture, dark green on the upper surface and medium green on the underside as they mature. The leaves are lanceolate, with blades 7-10.5 in long and 2-2.8 in wide, and petioles 1-2.5 in long.

The fruit (see front cover of Proceedings) is ovoid, with a rounded tip and a lateral beak, which is prominent on

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Abstract. The 'Van Dyke' mango, *Mangifera indica* L., originated in the 1940's in Miami, Florida as a seedling of unknown parentage. It was sold in nurseries and planted in home gardens in South Florida in the 1940's and 50's. The relatively small size of the fruit made Florida commercial growers reluctant to adopt the 'Van Dyke', but in recent times it has received increasing acceptance. It is now planted commercially in Florida and Brazil and is being tested in many other countries. The tree is vigorous and productive. The fruit is ovoid, with a weight which varies from 9 to 21 oz., averaging about 12 oz. External appearance of the fruit is outstanding, with a bright yellow ground color and a bright red blush which covers 20 to 85% of the surface. The pulp is yellowish orange and has an excellent flavor. The fruit is firm enough to ship well, but is free from objectionable fiber in the pulp. The fruit is relatively resistant to damage from anthracnose disease. A defect which needs further evaluation is the development of a cavity in the pulp at the stem end of the fruit, which is often accompanied by uneven ripening and breakdown of the pulp.

Many outstanding cultivars of the mango have originated in Florida as the result of an extensive program of introduction and selection over the past 100 years (1,2,3,5). One of these, the 'Van Dyke', has only recently become well known to commercial growers. Brief descriptions of the cultivar were published by Campbell and Malo (1) and by Young and Sauls (6). A color photograph was published on the cover of *HortScience* in 1977 (4).

This paper contains a brief history of the 'Van Dyke' mango and a detailed description based on observations made in the field and in packinghouses in Dade County, Florida.

some fruit and less well-developed on others. The stem insertion is straight and slightly raised. The fruit weighs from 9 to 21 oz, with an average weight of about 12 oz. The monoembryonic seed weighs 0.4 to 1.4 oz with an average of about 0.9 oz, thus constituting around 6% of the weight of the fruit.

The surface of the fruit is very smooth and regular. The skin is of medium thickness and relatively resistant to mechanical injury. The fruit is resistant to infection by the fungus which causes anthracnose disease. The fruit has excellent external color. The ground color is bright yellow and the blush is bright red. The blush covers 20 to 85% of the surface, with an average of around 60% on fruit from well-managed trees. There are numerous small, yellow spots around the lenticels on the fruit surface.

The fruit has a mild, pleasant aroma. The flesh is yellowish orange in color, with a rich, spicy, sweet flavor. The flesh is firm, with a fine-textured fiber which is not objectionable. The fruit holds up well during storage and shipping. The recommended mango storage temperature of 12-13°C is satisfactory for 'Van Dyke' fruit.

Like many other mango cultivars, the 'Van Dyke' fruit sometimes has symptoms of internal breakdown. This defect was mentioned in the initial evaluation in 1955. The most common symptom is the development of an open cavity in the pulp between the stem attachment and the seed. Sometimes the pulp ripens prematurely near the seed and has a jelly-like consistency. In extreme cases, irregularly-shaped areas of the flesh become dark brown and fermented.

Internal breakdown is most likely to occur in fruit which is allowed to reach an advanced stage of maturity on the tree. The incidence of internal breakdown varies greatly from year to year. It appears to be increased by excessive nitrogen in the soil, or by very rainy, humid conditions.

Most of the 'Van Dyke' crop in Florida is harvested in June, but some is harvested in July as well. Mature orchards receiving good care will produce 400-500 bu (11-14T)/acre of fruit per year (somewhat less than 'Tommy Atkins' and 'Keitt' but more than some other cultivars).

Discussion

The 'Van Dyke' mango fruit is recognized as having beautiful color, good resistance to anthracnose, and excellent eating quality. Internal breakdown of the flesh is an important problem in some years. The cause of this disorder has not been determined. Growers can reduce the in-



Fig. 1. Fruit of the 'Van Dyke' mango. See also front cover of Proceedings.

cidence of internal breakdown by avoiding excessive nitrogen fertilizer application and by harvesting the fruit in the mature-green stage.

Most growers and packers in Florida prefer cultivars with larger size — large enough to pack out 9 to 12 fruit per 10.5 lb box. The majority of 'Van Dyke' fruit pack out 12 to 16 per box. Some people in Florida believe that there is a place in the U.S. market for this smaller fruit. Such fruit appears to find more ready acceptance in the markets of Europe and Asia.

In spite of some defects, the 'Van Dyke' is a good mango. It appears to have found a place in the commercial mango industry of the world and will continue to be planted in the future.

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