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THE MYSTERY OF THE MULGOBA

H. S. WOLFE

Professor of Fruit Crops

University of Florida

Gainesville

The writer has long been puzzled by the almost complete absence of the Mulgoba mango from lists of superior varieties prepared by many different authorities in India. It is such a delicious fruit that it is hard to see why it should be so ignored when many varieties much inferior to it are listed and described. As the result of much searching of the literature and considerable contempla-

tion, the conclusion has been reached that this variety may not be known in India except as imported from Florida.

The original shipment of Mulgoba trees (2) was made by G. Marshall Woodrow, who was then Professor of Horticulture at the Agricultural College, Poona, India. The description which was published in the report of Pomologist Van Deman in the 1889 Report of the Secretary of Agriculture reads as follows:

"Mulgoba—very large fruit, averaging about one pound. Skin greenish yellow, rarely with any blush."

One recognizes at once that this description does not fit the variety we know by that

name, but it is evidently the description furnished by Woodrow. In his *Gardening in India* (3rd ed., 1899), he says of Mulgoba: "Weight 16 oz., skin color green and golden, flesh pale yellow, fibreless." This is further amplified—and still less sounds like our variety—in his little booklet *The Mango*, published in 1904:

"Mulgoba—weight 20 oz., size 5x4½ in.; yellow and green, blotched; pulp pale yellow, fibreless; flavor sweet and piquant; stalk scar very prominent; beak large and sharp, ventral shoulder level, dorsal shoulder falling."

Anyone familiar with our Mulgoba knows that it has no beak, it is characterized by a beautiful crimson blush on fruit exposed at all to the sun, the size is a little less than a pound on the average, and the flesh is golden yellow.

Now the description given for Mulgoba by Woodrow agrees quite well with descriptions of several other writers for Mulgoa, beginning with that of the Economic Botanist of Mysore State in 1910 for trees of this variety sent to the U. S. Department of Agriculture. Parsons writing in *Tropical Agriculturist* (Ceylon) in 1931, gives a sketchy description of Mulgoa, says that it is much grown at Bangalore (Mysore State), where it is called "the Madras type", and that it was the variety which first fruited in Florida. My first thought was that Parsons had misspelled the name, but it seems clear that it was Woodrow who made the spelling error.

Recently the Indian Council of Agricultural Research has published a handsomely illustrated volume on *The Mango*, with color reproductions of over 200 mango varieties. The Mulgoba is conspicuous by its absence from the list, but the Mulgoa is prominently featured. It is said to be a commercial variety of Southern India, especially popular in the Chittoor district (formerly in the state of Madras), and Chittur, Madras, is where Woodrow says he obtained his "Mulgoba." The lengthy description and picture agree well with the detailed description of Mulgoa from Bangalore given by Kinman in *The Mango in Porto Rico* in 1918. These both agree fairly well with Woodrow's "Mulgoba", except that while there is a definite beak, it is rounded rather than sharp. The yellowish green skin, light yellow flesh, and large size are all in agreement.

It seems fairly well established, therefore, that the variety which Woodrow listed under the name "Mulgoba" when he sent grafted mango trees from Bombay to Washington in 1889 was actually the Mulgoa variety. However, this is only half of the mystery. The tree labelled "Mulgoba" in that shipment did not bear Mulgoa fruit when it finally bore for the first time in 1898. Although Woodrow evidently thought he was sending a tree of the Mulgoa variety, if given its proper name, it is very clear that this is not what he sent in fact. What, then, was the variety which he actually sent and which we now know as Mulgoba? For there was not then nor is there now such a variety known in India except as brought back from Florida.

There are two possibilities. One is that the scion was killed back to the stock and that our Mulgoba is the seedling on which the Mulgoa had been grafted. We know that all of the eleven grafted trees in this shipment arrived in Washington in very poor condition, and were all sent down to the Palm Beach area for care by "experienced persons." There is no record of who these "experienced persons" were, but we know that the only tree which survived and fruited was cared for by Rev. Elbridge Gale, retired professor of Horticulture from Kansas State College of Agriculture, who lived at Mangonia on Lake Worth. There is great likelihood that all of the trees went to him. Grafted trees of any satisfactory vigor ought to have fruited within five years of planting, but none of these had borne fruit before the "big freeze" of 1894-95. No account was ever published by Professor Gale of his experiences, except to say that fruiting of the sole surviving tree in 1898 had been delayed by the freeze. We do not know whether any of the other ten trees even survived until the freeze. It would conveniently explain the failure of Mulgoba to fruit before 1894 if the scion had died in 1890 and the seedling stock had grown on until fruiting. But it would be most unusual if seeds of a desirable variety had been used for the stock, instead of seeds of the common, fibrous, "hill mango" usually employed. And the chance that even a seedling of a good variety would produce a high quality fruit is very small although not negligibly so.

The other possibility is that an error was made in the nursery and another variety was

used as scion than Mulgoa, although labelled "Mulgoba." This is a much more reasonable hypothesis, although it is faced with the problem of finding a variety with the characteristics of our Mulgoba under some other name in India. None of the many Indian mango experts who visited George Cellon in the heyday of the Florida Mulgoba seems ever to have recognized it as a familiar variety masquerading under a new name. Mulgoba is a fruit of such excellence of quality and attractiveness of appearance that it could not have gone unnoticed in India. Yet none of the varieties described and figured by Burns and Prayag in their 1920 *Book of the Mango*, dealing with all the desirable forms known to them in the Bombay area, could possibly be our Mulgoba. And the tree sent by Woodrow was grafted right where Burns had worked with mangos for many years, just outside of Poona. He could not have failed to include this variety if it were there and available for supplying scions, although it might just possibly have disappeared between 1889 and 1908, when Burns started work. It was certainly not a variety known and esteemed in Bombay.

We are left, then, with no good explanation of the origin of our Mulgoba mango, and thus a mystery about how it suddenly appeared in Florida.

Incidentally, in studying the 200 varieties considered worthy of being portrayed in the I.C.A.R. volume, it is surprising that only one of the many varieties introduced to Florida is shown—Paheri or Pairi. The fruits shown as Amini and Rajpuri are not the ones we grow under those names, although the synonymy shows we received Paheri from Bombay and the same variety as Rajpuri from Madras. *Sundersha* is not included, although the variety called Bangalore is closely similar except for size. It is said to be called Totapuri in Madras, but is not at all like the variety sent to Florida from Madras 60 years ago under that name. None of the different *Sundersha* variants resembles our *Sundersha*, nor any of the Totapuri variants our Totapuri. With the variation evident in names for the same variety in different parts of India, maybe our Mulgoba is known and esteemed somewhere in that great peninsula under some other name. And someday the mystery of Mulgoba may be solved.

FORTY YEARS OF PAPAYA DEVELOPMENT

SCOTT U. STAMBAUGH

Miami

My active interest in the papaya began in the spring of 1919. It has occupied my mind and the major portion of my time from that day to this. This work has taken the form of :- Evaluation of the papaya types in Florida at that time, selections among those types for individual varietal forms that would be suitable for use in a breeding program, breeding of new types, the growing of commercial plantings, the study and initiation of practices in harvesting, packing and shipping, the study of and establishment of papaya processing routines and a study of the keeping qualities together with the sales value of those products. It should be understood that in 1919 almost no one other than myself was interested in the papaya for any reason. It now occurs to me that it would be a good idea to review the whole enterprise in an effort to get the details into some sort of accurate focus.

The matter of adapting the papaya as a commercial crop for Florida has come a long way in the last 40 years, however there is still a long way to go. In late years unfortunately much ground has been lost in certain areas of the problem. The conviction still remains is that any crop plant with the potentialities in a production of fresh fruit and usefulness in a wide variety of products will eventually find its way into the top brackets as a field crop for Florida.

Even our present day concepts of what it may take to establish the papaya as a basic crop here may have to be radically modified before the desired goal is reached. To understand the slowness of the papaya in establishing itself as an industry during the period of the past, it will be necessary to take a good sharp look at the condition of the budding industry 40 years ago.

In the first place it should be understood that papaya growing all over the Florida peninsula on any land that did not overflow could be