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MANGALA—A SUPERIOR ARECANUT VARIETY

K. V. A. Bavappa

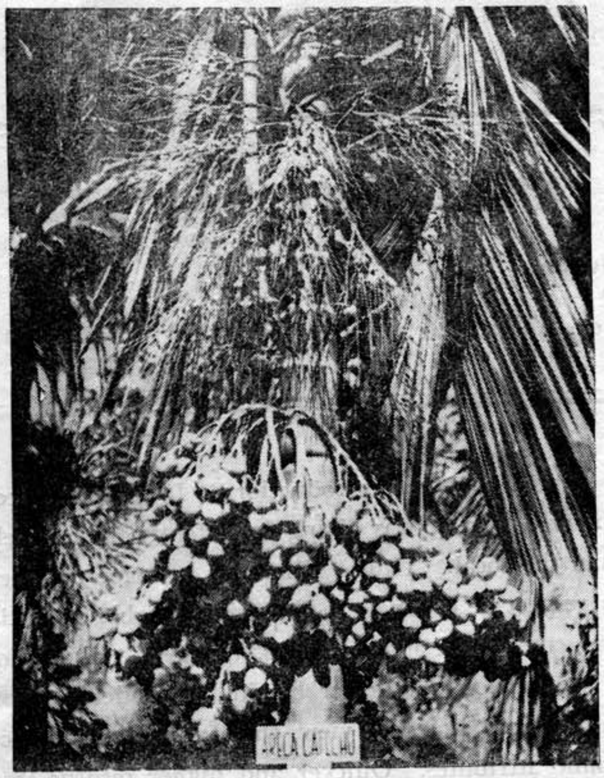
(Central Plantation Crops Research Institute, Kasaragod)

The erstwhile Indian Central Arecanut Committee established the Central Arecanut Research Station, Vittal (now known as Central Plantation Crops Research Institute, Regional Station) in 1956 in order to conduct research on arecanut. As a part of the crop improvement programme large number of introductions were being regularly obtained since 1958 from all over the arecanut growing countries of the world. As at present, this centre has a total ot 36 collections obtained from 12 countries.

The first batch of 17 collections obtained during the earlier years were planted for testing their relative performance on an experimental design (randomised block) in the year 1961 along with the local variety (South Kanara). Critical observations recorded on these introductions showed that one among them, obtained from the Orient (Peking) and maintained under the accession No. VTL 3 had a number of desirable characteristics. While the local variety required about five years to flower this introduction flowered in about three years. As against the limited number of female flowers and low set in the first few bunches as generally observed in the local, VTL 3 had much larger number of female flowers and higher set right from the first inflorescence. Besides, the average height of this accession was much less as compared to other introductions. It had also been observed that it was giving consistently higher yield than the local. Thus VTL 3 was superior to others in respect of earliness in flowering, (Table 1) initial and cumulative higher yields, quicker stabilisation of production and lower height. Considered from the farmers' point of view, these are important economic attributes. Quicker and higher returns from the investment and easyness of harvesting and spraying operations are of considerable advantage to the arecanut grower.

Multi-location trials were, therefore, initiated with VTL 3 in order to find out its adaptability to different agro-climatic conditions. There are 9 plots spread over in the States of Kerala, Karnataka, Tamil Nadu, Maharashtra and Orissa. A multiplication plot of 0.3 ha in extent was also planted at Vittal during 1967. The mean yield of the palms as compared to the local is given in Table 2. In view of the superior performance of this introduction, the All India Workshop on Coconut and Arecanut held in October, 1971 at Central Plantation Crops Research Institute, Kasaragod recommended this variety for release. The Central Sub-Committee on release of varieties during its meeting held on 4th June, 1973 also recommended its release under the name

"MANGALA" for the west coast of the country. The varietal description and other relevant features of MANGALA are given below: —



'Mangala' arecanut palm

"A semi-tall variety of arecanut with an average height of 65.5 cm as against 315 cm of the local type at the age of 10 years—mean internodal distance 5.8 cm as against 16.0 cm of the local—crown partially drooping with well spread leaves and having more number of leaflets than the local—leaf dark green in colour, pinnately compound with crinkling at the tip of leaflets—comes to bearing in about 3 years after planting as against four to five years taken by the local type—fruit dark orange in colour with a mean volume of 59.23 cc and weight of 48.16 gms—mean volume of kernal 12.29 cc and weight 11.55 gms—chewing and marketing quality of nuts good—yielded about 75% more ripe nuts per palm per year than the local type, successively for a period of six years".

The local variety of arecanut is by and large cross pollinated due to which reason the varietal purity cannot be expected to be maintained in the normal course of its cultivation. As against this, Mangala has a higher proportion of its male and female phases overlapping and thus a higher chance for self fertilisation. In spite of this, due to its being grown along with other varieties, variability has been met with in the open pollinated second generation of this variety. Work has, therefore, been initiated by Dr. N. M. Nayar and his colleagues to build up a uniform population of Mangala adopting appropriate selection procedures and to multiply the same under isolation. Though there are introductions yielding higher than Mangala in the collection plots of Vittal Research Station, Mangala was released for cultivation taking into consideration other desirable characteristics as well.

I am thankful to Shri K. N. Murthy, presently working as Breeder (Spices and Cashewnut project) and other staff of Vittal Research Centre for the assistance rendered in developing this variety.

TABLE 1—*Flowering data of Mangala and Local*

Year of planting—1961

% of trees flowered during

Year	(3rd year) 1963-64	(4th year) 1964-65	(5th year) 1965-66
Mangala	66.6%	100%	100%
Local	0	66.6%	100%

TABLE 2—*Yield of Mangala in the multiplication plot (Planted in 1967)*

Mean yield/tree/year—(Kg ripe fruits)

Year	1969-70 and 1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	Total
Mangala	N.A.	4.73	16.75	12.36	16.04	14.15	64.03
Local .	N.A.	1.57	4.80	5.11	6.62	8.89	26.99