

## YIELD OF 'MANGALA' ARECANUT IN GOA

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### INTRODUCTION

Arecanut is the third important plantation crop of Goa, after cashew and coconut, and is being grown in an area of 1304 hectares with an annual production of 1460 tonnes (Source: Directorate of Agriculture, Goa). The average productivity is about 1.1 tonnes per hectare of dry nuts. The Mangala arecanut variety released by the Central Plantation Crops Research Institute, Kasaragod is semitall, precocious with high yield (Bavappa, 1977). A demonstration plot was established in Goa to test its performance under Goan conditions and also to supply genuine planting material to the growers.

### MATERIAL AND METHODS

The planting of 'Mangala' arecanut was done in the farm of ICAR Research Complex at Old Goa in the State of Goa, in the month of July, during 1984. A spacing of 2.7 m x 2.7 m either way between the plants was followed. The seedlings were obtained from the Regional Station of Central Plantation Crops Research Institute at Vittal, Karnataka. A total of 219 seedlings were planted in a block. All the package of practices recommended for the crop by the Institute of its origin was followed.

### RESULTS AND DISCUSSION

Out of 219 palms, 14 died due to bud-

rot, and the yield data were recorded for 191 palms only as the remaining palms did not flower so far. It was observed that 20% of the palms flowered by 5th year of planting and by 8th year (1992) majority (93.17%) of the palms yielded (Table I).

An average yield of 10.10 kg/palm was obtained during the third year of bearing i. e. 7th year of planting (Table II). This is almost close to the average yield reported for the variety at Vittal based on data collected for nine years being 10.3 kg nuts/palm/year (Anonymous, 1974). Thus, the trend on early stabilization of yield is almost similar at both the research stations. However, the average and cumulative yields obtained at Goa for the past four years are comparatively less than that recorded for Mangala at Vittal (Table III). Actually, it was observed that 27.22% (52/191) of the palms recorded irregular yields, either in alternate years or not yielding for one, two or even three years. This also may be one of the reasons for the lower yields at Goa. Besides, Mangala is reported to be heterozygous with off-type plants (Bavappa, 1977), and if these are identified and removed, the population average will go up. This is further supported by the fact that the range of cumulative yield/palm varied from 0.3 kg to 83.7 kg. All the above factors may be contributing to the comparatively lower yields. However, it is worth mentioning that the average yields obtained at 7th and 8th years of planting

Table I. Bearing of palms during the first four years (cumulative)

Year	Number of palms that bore fruits out of the total	Percentage
1989	41/205	20.00
1990	146/205	71.22
1991	181/205	88.29
1992	191/205	93.17

Contribution No. 52 of ICAR Research Complex for Goa, Ela, Old Goa, 403 402, Goa.

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**Table II. Yield data on Mangala during the first four years of bearing**

Year	Average no. of bunches/palm/year.	Average no. of nuts/bunch	Average fresh weight of nuts/palm/year (kg)
1989	1.7	107.7	3.71
1990	3.0	243.6	8.10
1991	2.5	312.5	10.10
1992	2.0	277.1	9.28
Cumulative	9.2	940.9	31.19
Average	2.3	253.2	7.80

**Table III. Comparison of average yield of Mangala (wet weight of nuts/palm/year in kg) at Goa and Vittal for first four years**

Location	Prebearing period	Bearing years				Total
		1st	2nd	3rd	4th	
Goa (planted in 1984)	4 years	3.71	8.10	10.10	9.28	31.19
Vittal (planted in 1967)	4 years	4.73	16.36	16.04	49.88	

are very close to the average reported for the variety at Vittal. Therefore, it can be concluded that the yield of Mangala in Goa is similar to that realized at Vittal besides attaining early stability in yield.

The average yield reported for the local Goan variety is around 6.0 kg fresh nuts/palm/year with smaller nuts. Mangala with its bigger size nuts, early bearing and higher yields is definitely superior to the local as seen from the

above results. These studies indicate that Mangala arecanut variety appears to be very promising for Goa.

#### REFERENCES

- ANONYMOUS, 1974. Annual Report for 1973. Central Plantation Crops Research Institute, Kasaragod, India. pp. 80-82.
- BAVAPPA, K.V.A., 1977. Mangala - a superior arecanut variety. *Arecanut and Spices Bull.* 8 : 55-56.

#### DISCUSSION

M.K. MULIYAR : Did you eliminate the non-typical palms for calculating the yield.

P.M. MATHEW : The non-typical 'Mangala' plants were not excluded for calculating the yield. It will be done in future studies.

CHAIRMAN'S REMARKS : Non-Typical Mangala palms will be emasculated before supplying seed nuts of Mangala to growers in Goa as suggested by Dr. M.K. Nair, General Chairman.