

MIXED  
FARMING  
IN  
COCONUT  
GARDENS

# A COCONUT HYBRID SEED GARDEN FOR THE WEST COAST

Shri. A. Shankara Alva, Hon'ble Minister for Cooperation, Government of Mysore, laid the foundation stone of the building complex at C. P. C. R. I. Kidu Campus near Subramanya, Mysore State, on 14th April, 1973. Padma Shri. T. M. A. Pai presided over the function.

By

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The coconut palm, rightly eulogised as the 'Kalpa Vriksha (heavenly tree) or the tree that provides all the necessities of life, not only sup-

plies substantial quantity of food but also provides raw material for a number of important industries. The crop is of considerable economic importance to the States of

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Kerala, Mysore and Tamil Nadu which have about 90 per cent of the total area of 10,45,600 hectares under this crop. The cost of the annual production of 6,078 million nuts which comes to about 2,735 million rupees, alone does not reflect the importance of this crop. The coir industry which utilises the coconut husk and is earning considerable foreign exchange and the soap, vanaspati and perfumery industries which utilise the oil are some of the important industries which directly depend on the coconut palm. The internal production of coconut was all along in-

adequate resulting in the import to varying extents. During the year 1967-68, India imported copra valued at Rs. 44.2 million rupees. The urgency for the country to become self-sufficient in coconut production needs no emphasis.

### Superior planting material

In the evolution of high yielding varieties of coconut, work done so far has shown that a few varieties and hybrids are superior to the local. Their relative performance is given below:

Variety / hybrid	Annual yield of nuts/palm	Copra content/nut (gm)	Annual outturn of copra/palm (kg)
1. West Coast Tall	80	134	11
2. Laccadive Ordinary	141	160	22
3. Laccadive Micro	205	113	22
4. Philippine Ordinary	107	214	23
5. Tall x Dwarf Orange	102	178	19
6. Dwarf x Tall	130	210	27

It will be seen from the above that Dwarf x Tall hybrid, Philippine Ordinary, Laccadive Ordinary and Laccadive Micro yield over 100 per cent more copra than the local West Coast Tall. In addition hybrids involving Gangabondam, a dwarf from Andhra Pradesh and Laccadive Ordinary also give high yield. Of these the hybrids are not only high yielders, but are also early bearers which is an important characteristic in a crop like coconut which has a long pre-bearing age of six to eight years. Reducing the pre-bearing age of coconut has far-reaching effects in stabilising the economy of coconut cultivators. The coconut planters are well aware of the superiority of these hybrids and varieties, but the extremely limited availability of planting material sets limits to their exploitation for production.

The present annual production of hybrid seedlings in the country is of the order of 25 to 30 thousand

only under a scheme financed by the Government of India. The technique involves selection of West Coast Tall female parents and pollinating them with pollen of Dwarf Orange employing manual labour. The necessity of climbing every selected tall female parent for emasculating the selected bunch, bagging the same, effecting pollination and other after-care are some of the factors that limit the large scale production of hybrid seedlings following this technique.

The coconut hybrid seed garden now being established by the Central Plantation Crops Research Institute at Kidu near Subramania will employ modern techniques of hybrid seed production as detailed below:-

The two tall varieties, viz., the West Coast Tall and Laccadive Ordinary are being planted in two separate blocks of about 50 ha. each. The tall is planted five

metres apart in rows aligned in north-south direction. The two dwarfs (Chowghat Orange and Gangabondam) are similarly planted in adjoining rows six metres away from the West Coast Tall and Laccadive Ordinary respectively and five metres between them in the row, every dwarf coming in the centre of the tall. The two rows of tall and dwarf will form a double hedge. The next double hedge will be nine metres away planted on similar design. When the palms come to flowering male flowers in the dwarf palms will be removed, so as to prevent self pollination of the dwarfs. The nuts that develop on the dwarfs will thus be dwarf x tall hybrids. Since selected tall and dwarfs alone are used nuts obtained from the tall will be superior than the locally available tall planting material. When the seed garden comes to production, there will be two different hybrid combinations (Dwarf Orange x West Coast Tall and Gangabondam x Laccadive Ordinary and two superior tall varieties (West Coast Tall and Laccadive Ordinary). The estimated annual production of tall and hybrids will be of the order of six lakhs each from this seed garden.

Even though two hybrid seed gardens have been established, one in the maidan parts of the Mysore (Bellare, Tumkur District) and another in Tamil Nadu, the seed garden that is now being established at Kidu is the first of its kind in the West Coast of India which has more than 70 per cent of the coconut area of the country. This garden is also unique from the point that it is the only garden, where two hybrids involving four parents have been attempted so far in the country. It can be reasonably expected that the planting material from this new garden will substantially help to increase not only the overall production of coconut in the country but also production per unit area.

## Coconut Development Schemes in Andhra Pradesh

Andhra Pradesh ranks fourth in coconut production in the country with an estimated production of 12.788 lakhs nuts annually. According to the sample survey figures of 1970-71, the area under coconut in Andhra Pradesh is 30935 ha. Coconut cultivation in the State is mostly concentrated in seven taluks of East Godavari, West Godavari and Srikakulam districts. In spite of the fertile deltaic soil and congenial climatic conditions the average annual yield of the palm is only 30 nuts. The reason for the poor productivity of the palm is mostly attributed to the poor management practices. Fertilization is practically insignificant and hardly ten per cent of the palms are irrigated. With a view to increasing the productivity and to expand the area under coconut, various developmental schemes were envisaged under the Fourth Five Year Plan. Production and distribution of quality coconut seedlings, establishment of demonstration plots, extending irrigation facilities etc., were some of the important schemes included under State Sector Schemes. Under Central Sector, the scheme for production and distribution of hybrid seedlings was proposed for implementation.

### a. State Sector Schemes

Though various production oriented measures were proposed under the Fourth Five Year Plan, none of the schemes could be implemented except the one concerned with the production and distribution of quality coconut seedlings. In the above scheme also the progress lags behind the target. Under the coconut development scheme 12 coconut nurseries are being maintained. During the year 1972-

73, 0.55 lakh seedlings were supplied from these nurseries against a target of 2 lakh seedlings. The programme of work proposed for the current year is to collect 4 lakh seednuts for raising seedlings in the departmental nurseries. Other developmental activities are planting of coconut on field bunds and production of aged seedlings. The seedlings are supplied at subsidised rate for planting on field bunds. The financial requirements to implement the scheme during 1973-74 is estimated at Rs. 6.30 lakhs.

### b. Central Sector Schemes

i) T x D Scheme: The scheme for production and distribution of T x D hybrid coconut seedlings has been under implementation since 1968. The target fixed was to distribute 5000 seedlings annually during the Plan period. Due to the late implementation of the scheme the distribution of seedlings

could be started only during 1971-72 and so far 4820 hybrid seedlings have been distributed. Taking into consideration the progress of the hybridization work carried out in 1971-72 it is possible to achieve the target during the current year.

ii) Package Programme: Since the coconut development activities in the State were restricted to the production and distribution of coconut seedlings, a lacuna developed on the production front due to the dwindling productivity of the palms. The Government of India, in order to increase the productivity per unit area through intensive production programme, has sanctioned a package programme. The programme is to be implemented during 1973-74. The scheme covers 4500 hectares in four coconut growing districts of Srikakulam, Vizhakapatnam, East Godavari and West Godavari.

Development  
Diary

The coconut growers in the area will be given loan at the rate of Rs. 3.50 per palm for the purchase and application of fertilizers and plant protection chemicals. Pump sets will also be made available to cultivators on a hire purchase basis. Nine demonstration plots of 0.25 hectare size are to be established in the package area to demonstrate scientific cultivation. The cost of fertilizers and plant protection chemicals will be met by the Government of India. The cultivation charges are to be borne by the cultivators. The scheme will be implemented by the Agricultural Department, Andhra Pradesh. The Directorate of Coconut Development will par-

ticipate in the field publicity programme aimed at educating the farmers and will evaluate the progress of the scheme from time to time.

### **Progress of Centrally Sponsored Schemes on Coconut**

i) **T x D Scheme:** The hybridization and collection of hybrid nuts were continued in all the four States where the scheme was implemented. In Kerala during the current pollination season 1,11,930 female flowers were pollinated and 14,341 seednuts were collected from the trees pollinated last year. In Andhra Pradesh, 24,085 female flowers were

crossed and 11,167 hybrid nuts were harvested. The hybridization work in Tamilnadu and Mysore is reported to be in full swing.

ii) **Elite Farm:** The T x T seedlings planted in 53 acres of the Elite Seed Farm, Mysore were maintained. Mulching operation was completed during the month under report. Plant protection measures were resorted to to control the leaf-spot disease. Attempts to irrigate the farms by laying out pipe line from a nearby water-weir are in progress.

**Subsidised supply of coconut seedlings:** The supply of coconut seedlings at subsidised rate was continued in Gujarat State.

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ADVICE REGARDING VARIOUS ASPECTS OF COCONUT CULTIVATION AND THE COCONUT INDUSTRY WILL BE GLADLY FURNISHED ON REQUEST, FREE OF CHARGE, BY APPROPRIATE OFFICERS OF THE  
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