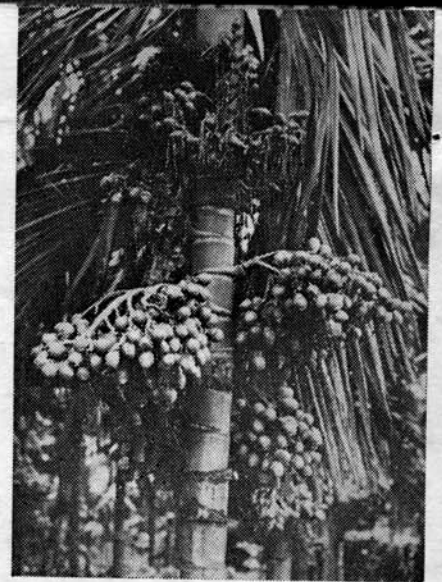


MAXIMISE INCOME FROM ARECANUT GARDENS

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A 'Mangala' plant

THE cost of cultivation of arecanut was Rs 955 per hectare in 1956. It rose more than six times to Rs 6,245 in 1973. During the same period, the value of produce, however, increased only about three times from Rs 3,675 per hectare to Rs 12,000 per hectare. This shows that there is a genuine need to increase the productivity of arecanut garden lands.

Arecanut has practically no export value and has to depend almost entirely on its internal demand for chewing. The consumption of arecanut has not been going up proportionately with the increase in population. Hence, there is no likelihood of the price of arecanut to increase appreciably unless alternative uses other than chewing can be found out for the nut. For this reason also, it has become imperative to increase the productivity of arecanut gardens. This can be brought about by adopting the various research findings obtained at the CPCRI, Regional Station at Vittal. The more important of these and those which could be immediately adopted are described below.

Replacing Uneconomic Palms. All plantations show considerable variations in yield between trees. About two-thirds of the trees in a garden account for more than 80 per cent of the yield, and conversely, about one-third of the trees yield only less than one-eighth of the produce. Trees yielding less than 100 nuts annually account for about one-sixth of the population. These are uneconomic as their yield cannot cover even their

recurring maintenance costs. Such palms should be identified and removed immediately. The next group of palms which have to be culled are those which yield between 100 and 200 nuts. They form less than a sixth (17 per cent) of the population and yield only an eleventh (9 per cent) of the total produce. These uneconomic palms could be replaced with seedlings of the high-yielding variety 'Mangala'. This variety gives about 70 per cent more yield than the indigenous types. It possesses the additional advantages of a shortened juvenile phase and a semi-dwarf habit. With good management, it comes to bearing in less than three years against the 4 to 5 years taken by the local types under identical conditions. Its semi-tall habit significantly reduces the climbing charges over the years.

Irrigation. Kerala and Karnataka are the leading areca-producing states of the country. Together, they account for nearly three-fourths of the total production. Both states produce nearly the same quantity of nuts, even though the area in Karnataka is only about half that in Kerala. The soil and climatic conditions of the principal areca-growing regions of the two states are generally similar, and the main reason for the low productivity of Kerala appears to be in that in Kerala most of the crop is rainfed, while in Karnataka, the crop is mostly irrigated. The trials conducted at the CPCRI's substations at Palode (south Kerala) and Peechi (south central Kerala) showed that irrigation increased the

yield by more than two-fold. The results of a co-ordinated irrigation experiment in progress at the various sub-stations and at Vittal show that the best responses are obtained when arecanut crop is irrigated at the rate of 200 litres water per palm once every 3 to 6 days during the summer months.

Green Manure Crops in situ: Many farmers, particularly of the coastal Karnataka, apply about 20 kg green leaves to a tree annually. However, this practice has become expensive with increasing difficulty in getting green leaves and high labour wages. Leguminous cover crops like *Pueraria javanica* and *Mimosa invisa* can be conveniently raised in areca gardens. They not only yield nearly 15 tonnes of green matter per hectare but also supply to the soil about 100 kg nitrogen, 17 kg phosphoric acid and 59 kg potash per hectare annually. This meets about four-fifths of the requirements of nitrogen and about one-third each of phosphoric acid and potash of the arecanut crop. Thus, the growing of a leguminous cover crop can result in considerable saving in the farmers' fertilizer bills. The green manure seeds may be sown broadcast in about early April and the crop ploughed into the soil in September.

Inter-and Mixed Cropping. The practices of inter-and mixed cropping

ing are not new to the farmers, particularly in arecanut gardens. This practice provides several advantages to the farmers: higher returns from the land; increased employment throughout the year; better assurance of income in case the main crop fails owing to diseases and pests or by some other calamities; and reduced possibilities of large-scale pest and disease attack by regulating the population of pests and of their naturally occurring predators. Additionally, inter-and mixed cropping help to keep the garden lands in proper tilth and help keep weed growth in check by ensuring constant cultivation.

The arecanut farmers have been traditionally using several crops for inter-and mixed cropping. However, most farmers plant the arecanuts very closely and use incompatible crop combinations in mixed and inter-cropping. The best spacing for the main arecanut crop and also suitable combinations of crop mixes for the various arecanut tracts of the country have also been worked out. Arecanut grows best at a spacing of 2.7 m x 2.7 m. At this spacing, more

than half the roots of the palm are within half-metre radius of the stem and more than 80 per cent within a metre. A large area of the arecanut garden, therefore, remains unutilized. Among annuals and biannuals, elephant foot yam and banana are the best. They provide additional returns to the extent of about Rs 1,500 per hectare annually, and at the same time do not cause any reduction in the yield of arecanut. Among the perennials, pepper and cardamom have always been popular intercrops. Studies have now been taken up to determine the best varieties of pepper and banana that could be used in arecanut gardens.

Cacao is a recent reintroduction to India. Our observations during the last ten years show that it comes up exceedingly well in arecanut gardens provided that the crop is planted at the recommended distance. With the prevailing high price of cacao (more than Rs 15 per kg of dried beans), mixed cropping with cacao can easily double the income of the arecanut farmer. As with coconut, there are also some indications that mixed cropping with cacao provides

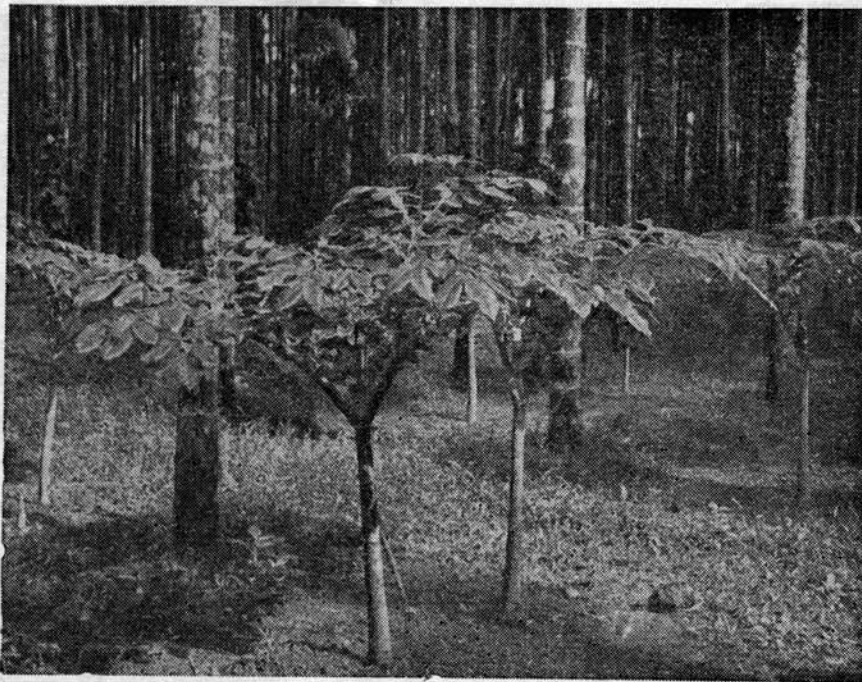


A high-yielding cacao tree in an arecanut garden

some benefits to the main arecanut crop as manifested by its increased yield. This aspect is being closely studied.

The outlook for the arecanut farmer is indeed bright. It appeared to be gloomy after the fall in prices of arecanut in 1971-73. The prices of arecanut have not only picked up, particularly with the establishment of Central Arecanut Marketing and Processing Co-operative, but the research findings of the Central Plantation Crops Research Institute, Regional Station, Vittal, definitely show that income from arecanut gardens can be easily increased two- to three-fold if the recommendations are adopted by the farmers on the use of better varieties, improved tillage and irrigation practices, and on growing inter-and mixed crops. The Institute has also made suitable recommendations for the control of various diseases and pests. These have been given in another article in this issue. They should also be followed both prophylactically and curatively.

At the same time, a note of caution should also be given. With no immediate prospects for developing an export market for arecanuts, and with the chewing habits tending to taper off with the people at large, it is not considered advisable to devote any additional land to arecanuts from now.



Elephant-foot yam growing as intercrop in an arecanut garden