

# Intercropping in Arecanut helps to build up farmers' economy

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Monoculture with arecanut has been the common practice with large scale cultivators, though occasionally gardens with pepper, banana and other intercrops are met with in some parts of the country. In certain parts annual crops like tapioca, colocassia, etc. are grown only in young arecanut plantations. The advantage of raising mixed and intercrops with a perennial plantation crop like arecanut needs no emphasis. During the prebearing age which extends from five to seven years and the early phase of bearing i. e upto 10 years the income from arecanut gardens is practically negligible or meagre. Even in fully bearing gardens, with the steep fall in prices of arecanut and severe decline in yield due to the epidemic 'yellow leaf disease' prevalent in south and central Kerala, inter and mixed cropping has to be viewed in the proper perspective. Arecanut being a non-food crop, intercropping with food crops will have its advantage in meeting the daily needs of small farmers. This is more important when the country as a whole is striving for maximisation of production of food utilizing modern technology and know-

how. The selection of suitable intercrops is also important. The success mostly depends upon the ability of the intercrop to grow satisfactorily under the conditions prevailing in arecanut gardens. With this background an experiment was laid out at the Central Plantation Crops Research Institute, Sub-Station, Palode, South Kerala. The results obtained from the investigation are summarised in this article.

The experiment on a randomised block design was initiated in 1969 in an eight-year-old arecanut garden raised on bench terraces on one of the hill slopes of the station. The spacing of arecanut palms was 2.7 m.  $\times$  2.7 m. in the square system of planting. The interspaces between palms in the rows across the slope were used for raising intercrops except pepper which was planted in the basins of areca palms and allowed to trail over it. The areca palms were uniformly manured with N. P. K at 100, 40, 140 grams respectively per palm per year in addition to 12 kg each of cattle manure and green leaf. The intercrops were also given the normal dose of fertilizers.

Table 1. Manurial dose for intercrops *mixed crops*

Intercrops	Population per hectare	Manurial Schedule per hectare			
		FYM (tonnes)	N Kg	P <sub>2</sub> O <sub>5</sub> Kg	K <sub>2</sub> O Kg
1. Pepper	1332	10.0	135.0	215.0	80.0
2. Tapioca <i>Cassava</i>	2590	2.6	26.0	20.0	43.0
3. Elephant-foot-yam	1295	6.5	52.0	26.0	52.0
4. Dioscorea	1295	6.5	52.0	26.0	52.0
5. Sweet potato	10360	2.0	15.5	10.0	15.5
6. Pineapple	2590	7.5	26.0	13.0	52.0

Both the arecanut and the intercrops advantage of the two monsoons. were raised under rainfed conditions taking

Table 2. Planting and harvesting details of intercrops *mixed crops*

Intercrops	Planting	Harvesting	Remarks
1. Pepper	May-June	December to February	Perennial
2. Tapioca <i>Cassava</i>	April-May	January to February	
3. Elephant-foot-yam	March-April	November to December	
4. Sweet potato	May	August	
5. Dioscorea	March-April	November to December	
6. Pineapple	May	All the year round	To be replanted every 3 years

All the cultural and plant protection practices normally recommended for each crop were followed. The yield of different crops and economics of cultivation were worked out.

Table 3. Economics of intercrop cultivation *mixed crop at 1973 Prices*

Intercrop	Cost of cultivation per hectare Rs	Yield per hectare Kg	Gross income per hectare Rs	Net return per hectare Rs
1. Pepper	2520	555 (dry)	2775	255
2. Tapioca <i>Cassava</i>	618	4836	1209	591
3. Elephant-foot-yam	1548	6496	3248	1700
4. Dioscorea	1548	6744	3372	1824
5. Sweet potato	417	712	356	61
6. Pineapple	730	3942	1577	847

From the data, it is seen that all the crops except sweet potato have given reasonable additional returns. The tubers, elephant-foot-yam and Dioscorea have given good yields. The return from pepper is also expected to be higher in course of a few years. (The data given are for four-year-old vines). The very poor performance of sweet potato may be attributed to the shady

conditions and gravelly type of soil of the arecanut garden. It has been observed that no perceptible deleterious effect on the yield and condition of arecanut could be noticed during the period of investigation. In view of the above findings large scale cultivation of intercrops like elephant-foot-yam, Dioscorea, pepper, pineapple etc. are recommended for adoption in arecanut gardens.

