ARECANUT

DEPARTMENT OF AGRICULTURE, CEYLON
LEAFLET No. 55

TWO edible species of Areca are found in the Island: *A. Concinna* (S. Lenteri), with a red blossom and scarlet fruit. This is a wild species, indigenous to Ceylon, and found in the wet low-country, especially in the Sabaragamuwa Province and in Rayigam and Pasdun Korales of the Western Province. It is occasionally chewed with betel as a substitute for the ordinary arecanut.

A. Catechu (S. Puwak; T. Kamuku pakku) is the cultivated species, of which three varieties are known: the local (*a*) *Sinhalapuwak;* (*b*) the *Ratapuwak;* and (*c*) the *Hambanpuwak* (*A. Catechu* var. *alba*), which is stated to have been introduced from Java.

The arecanut is commonly found in cultivated areas in the moist low-country, especially in the Kegalla District, where, from earliest times, it has been an important commodity. It thrives below an elevation of 2,500 feet, but requires a well distributed rainfall of not less than 80 inches. It grows on the slopes of hills, but does better on flat land with surface moisture, though it will not endure an excessively wet soil.

The total acreage under arecanut in Ceylon is estimated to be 68,476 acres, of which nearly half occurs in the Province of Sabaragamuwa. The distribution of cultivation is as follows:

	Acres
Kegalla District	22,000
Ratnapura District	9,000
Kandy District	9,000
Colombo District	6,000
Kurunegala District	5,000
Matara District	5,000

The palm will grow on practically any soil, though a loose loam is best. Sandy and rocky soils are not recommended. The arecanut is a surface feeder, and manuring is necessary if maximum yields are to be secured. In Mysore and other parts of India where the arecanut is under regular cultivation, it is not so much the question of soil type as of the application of manure that counts towards the success of the crop. Small pure plantations may be seen in the Kegalla District and at Lunugala, but in India, where special treatment is afforded the arecanut, it is always part of a mixed plantation of cardamom, pepper, and plantain.

The local or *Sinhala* variety commences to yield in the seventh or eighth year, and continues to give satisfactory returns up to about the twentieth year. The foreign varieties generally come into bearing a year earlier.

PROPAGATION

The arecanut is propagated by seed which may be planted *in situ;* but it is preferable to raise a nursery and transplant the seedlings between six months and one year old.

Seed should be selected from fully grown trees not less than twenty years old, which produce at least two bunches a year. The bunches of fruit selected for seed should not be removed off the trees till fully ripe, *i.e.*, when the fruit begins to drop.

The fruits should be neither dried nor husked. Before sowing they should be soaked in water for three days in order to hasten germination. The nursery bed should be prepared by carefully digging up the soil, breaking it fine, and adding leaf-mould and well-rotted cattle manure. A loose soil is to be preferred; and if the soil is at all stiff its texture may be improved by the addition of sand or ashes.

The seed nuts (whole fruit) should be placed at a distance of 6 inches in rows 9 inches apart, and covered with a layer of loose soil 4 inches deep. The bed should be lightly shaded and watered daily for three months, after which time watering two or three times a week should be sufficient. Under favourable conditions the seed germinate at the end of one month, but the shoots may not appear above ground for two or even three months. The seedlings should be 6 inches high at the end of the sixth month, and a foot high at the end of eight months.

PLANTING OUT

Seedlings should be carefully transplanted into well-prepared holes, which should be dug 2 feet in diameter to a depth of 1-1½ feet. The holes should be liberally manured with leaf mould and well-rotted cattle manure, and filled with loose surface soil. The seedlings should be lifted with a ball of earth and placed in the hole at a depth of 6 inches, after which the top soil is filled in.

The arecanut thrives under shade, and it is not until after the sixth year that the palm begins to bear. Catch crops of plantains can be obtained from a young plantation without detriment to the palms.

The distance of planting recommended is 8 feet by 8 feet, which would give 680 palms to the acre. It is preferable in the first instance to plant out 8 feet by 16 feet, and set down a row of plantains alternate with the arecanut. These will provide the necessary shade for the early years of the palm's growth. At the end of the third year the plantains should be removed. By this time the alternate rows planted with arecanuts would provide the required shade.

— 16 feet —		— 16 feet —
A A	...	A a A
P		
A A	...	A a A
P		
A A	...	A a A
P		
A A	...	A a A
P		
A A	...	A a A

Plantation during first three years.
A = Arecanuts.
P = Plantains.

Planting in fourth year.
A = First planting of arecanuts.
a = Second planting of arecanuts.

WEEDING

In the first year it will be necessary to give three or even four weedings in order that the arecanuts may get a good start. After this two weedings should be sufficient. Cover crops may be used, but it is preferable that a space of 2 feet around the plants should always be kept clean.

MANURING

Well-rotted cattle manure to the extent of 4 basketfuls or about 20 lb. should be applied once in two years around each palm, and forked in before the rains. Under ordinary conditions it may not be necessary to drain the land; but the arecanut palm will not stand any water-logging, and in consequence it is essential to cut drains at distances of 30-40 feet on all low-lying areas which are liable to poor drainage in the rainy season.

USES

The local use of arecanut is as a masticatory with betel-leaf; but in India, to which a large quantity is exported, it is utilized for the preparation of catechu, which is used in tanning leather.

The different commercial kinds of catechu are—

(1) Gambier catechu from *Uncaria gambier.*

(2) Bengal catechu from *Acacia catechu;*

(3) Bombay catechu from *Areca catechu.*

The arecanut appears in the local market in various forms—

(1) Ripe fruit;

(2) Dried whole nuts (seeds); termed gola, karunka or kotta pakku;

(3) Dried broken nuts (seeds); termed peti-puwak or kalipakku.

The "Sinhala puwak" has a small seed, hard and close-grained, which dries satisfactorily. "Rata" and "Hamban puwak" are not close-grained and do not dry well; the former possesses a fragrance which makes it attractive for chewing, while the latter is markedly astringent.

Mature fruits are sun-dried and smoked for about 24 days, till the seed has separated and found, on shaking, to be loose. The husk is then removed and whole dry seed is sold as "gol-la" or "karunka."

For "Kalipakku" only tender nuts are used. The fruits are picked while they are still immature and green in colour; they are then split and dried on mats. With strong sun, four or five days are sufficient for satisfactory drying.

YIELD AND PRICES

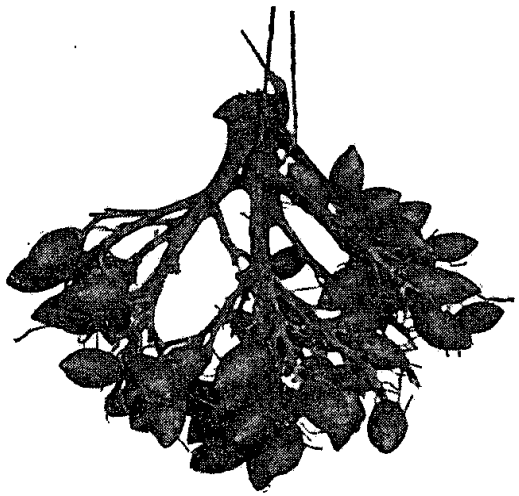
The custom of the country is to purchase the standing crop; and based on current market rates, and an estimate of yield from inspection Rs. 12-50 to Rs. 20-00 is paid for the yield of 100 trees.

The season for arecanuts is November-March, during which period 2-3 pickings of 3-4 bunches may be made. The first picking is always the heaviest.

The local variety (Sinhala puwak) yields a heavier crop of 200-400 nuts per tree on the average, while the other varieties average 100-200 each. The individual fruits as well as seeds of the latter, however, are larger and heavier; and the ripe fruits of these fetch about Re. 1-00 per 1,000 more than the local variety.

On calculation of 680 trees per acre and a yield of 300 nuts per tree, the total annual crop from an acre would be 200,000 nuts. Approximately 10,000 ripe nuts yield 1 cwt. dry nuts; and the yield of "karunka" may be 20 cwt. or of "kali-pakku" 8 cwt. per acre.

The standard measure of arecanuts is the amuna of 24,000 dry nuts, which weighs 2½ cwt. The average yield of an acre is 8 amunams, but good yields may reach up to 12 amunams per acre.



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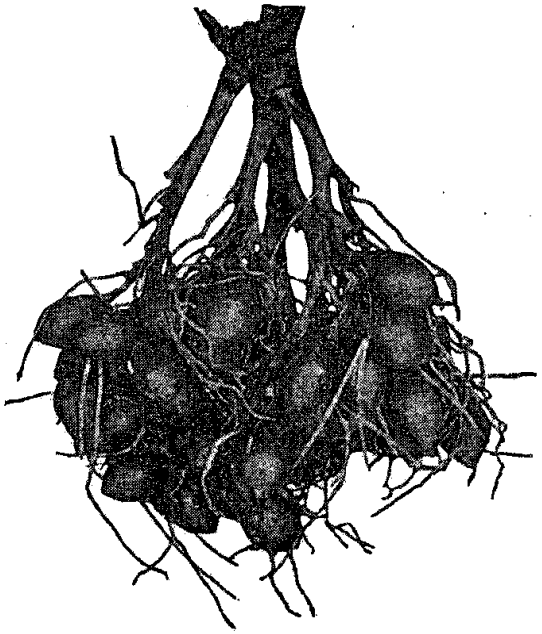


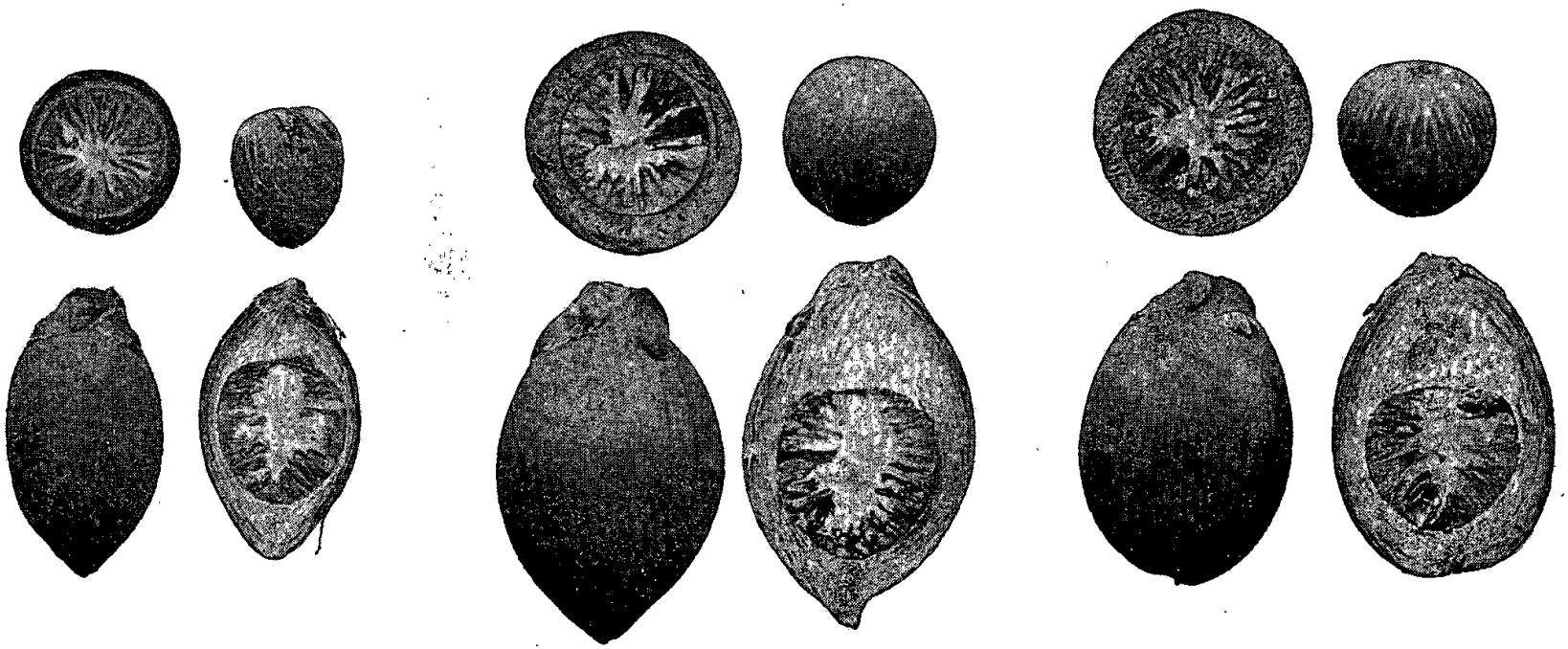
II

III

I—Sinhala Puwak

II—Rata Puwak

III—Hamban Puwak



I

II

III

I—Sinhala Puwak

II—Rata Puwak

III—Hamban Puwak

The market rates of arecanut products fluctuate; and at the present time they are as follows:

(1)	Whole green tender fruits ...	Sold by the crop at the rate of Rs. 15 per 100 trees
(2)	Whole ripe fruits ...	Re. 1-25 per 1,000
(3)	Whole dry nuts (karunka) ...	Rs. 16 per cwt.
(4)	Split dry nuts (kalipakku)	1st quality Rs. 36 per cwt. 2nd quality Rs. 24 per cwt. 3rd quality Rs. 17 per cwt.

The trade of the Island in this product may be gauged from the following table:

	Quantity Exported (Dried Nuts) Cwt.	Value Rs.
1922 ...	133,531 ...	3,331,148
1923 ...	160,578 ...	3,544,212
1924 ...	130,904 ...	3,294,961
1925 ...	154,291 ...	4,046,244
1926 ...	165,475 ...	4,247,825
1927 ...	118,278 ...	3,001,268
Average of ten years—		
1907-1916 ...	130,724 ...	2,590,624
1917-1926 ...	151,109 ...	3,450,512

Practically the whole of the quantity exported goes to India. 93·7 per cent. to British India and Burma and 3·2 per cent. to the Maldive Islands.

PESTS AND DISEASES

The following information has been furnished by the Inspector for Plant Pests and Diseases, Central Division:

Insects.—One aphid and three different scale-insects are reported to occur. The spotted locust, *Aularches miliaris*, is not often found, but when present may do serious damage by feeding on the leaves.

Diseases.—The most harmful disease is caused by the fungus *Phytophthora arecae*; the fungus first attacks the fruits, causing them to rot and fall off while still immature. As the disease progresses the fruit-stalk withers and falls to the ground. The fungus will ultimately spread to the crown and cause a rot of the bud, which will result in the death of the tree. Wet weather favours the development of the fungus and the spread of the disease. The following preventive measures are recommended:

(1) Adequate spacing to allow sunlight and air to enter the plantation;

(2) The removal by cutting down and burning of all palms or parts which have been killed by the disease;

(3) Placing a portion of a leaf-spathe over the flowers and bunch of fruit to act as a cover in preventing an excess of moisture lodging in the axils of the flower-stalks. In order to control this disease when it has occurred, spraying with Bordeaux mixture is the only method that can be recommended. This treatment is practised in South India and has proved to be most successful.