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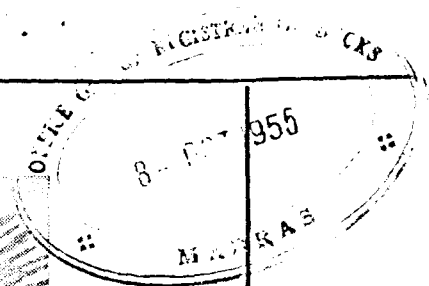
- 1) Report on the Survey of Waste Lands suitable for the Development of Arecanut Cultivation.

P. A. Sreenivasan, B.Sc., (Ag.)

- 2) Grading of Sliced and Boiled Arecanuts.
- 3) Indian Council of Agricultural Research



Spraying arecanuts against Koleroga.



ISSUED BY

THE INDIAN CENTRAL ARECANUT COMMITTEE,
(Under the Ministry of Food & Agriculture, Government of India)

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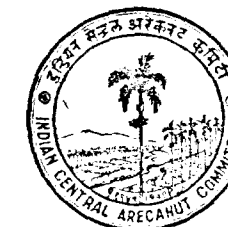
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MONTHLY BULLETIN

ISSUED BY
THE INDIAN CENTRAL ARECANUT COMMITTEE
HEADQUARTERS: CALICUT.

(The Editor is not responsible for the views expressed by contributors)

Vol. VI.

SEPTEMBER 1955.

No. 6.

REPORT ON THE SURVEY of Waste Lands suitable for the Development of Arecanut Cultivation in Assam, Bengal, Bombay, Coorg, Madras and Mysore State.

(P. A. SREENIVASAN, B. Sc. (Agr.))

The Agricultural Officer who surveyed the condition of the arecanut industry in the Indian Union during 1948-49 recommended that the scope for expanding the area under arecanut is very limited owing to the extremely localised nature of the crop and to the fact that food crops demanded a prior claim on such areas. He, therefore, laid a higher priority on increasing the acre yield by intensive cultivation methods. During 1951, the All India Supari Federation and areca interests in North Kanara District brought to the notice of the Committee the condition of the neglected and abandoned areca tracts in the malnads of North Kanara and also emphasised on the need to develop arecanut cultivation in

fresh sub-montane areas in the South West of India. All the areca growing States were consulted in the matter and the Madras Government were of opinion that a thorough and detailed survey should be undertaken for a period of one year in the sub-montane regions of Malabar and South Kanara Districts to delimit the optimum areas and indicate the assistance required. The Indian Central Arecanut Committee, while considering these proposals, felt that a comprehensive reconnaissance survey should be undertaken in the areca growing regions of South India and Bombay malnads and the States of Assam and Bengal in the North, for a period of 18 months so as to gauge the

present scope and limitations of an areca development programme for India. It was also further emphasised that the scope of expansion has to be determined without detriment to food crops. The Government of India, however, sanctioned the post of an Agricultural Officer for a period of 6 months only to undertake this work and report in detail regarding the scope and limitations. I joined duties on 2-1-1954 and toured in the areca growing tracts of Bombay State during January, in West Bengal during February, in Assam during March, in Mysore during April and in South Kanara and Malabar in Madras, and Coorg during April-May 1954.

"ARECANUTS IN MALAYA"

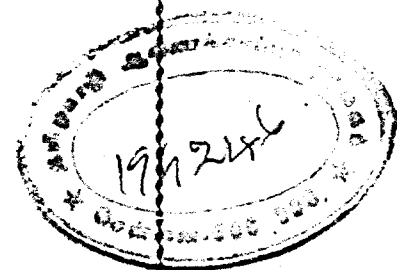
BY

K. K. NAMBIAR,

Secretary, Indian Central Arecanut Committee,
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Along with site inspections, the recent trends in the expansion of area under areca was also observed and attempt made to assess the extend of suitable waste lands, the approximate cost of reclamation and planting, rough farm costs in such areas, ready availability of capital for planting, and other matters essential to the expansion of area. The local officers had elicited everywhere possible public response in the matter and had also arranged for contracting intending planters. But, as the concessions and incentives that might be offered by the Committee and the State Governments were not known, many expressed their doubts in the results of such a factual survey, however useful it might be for future planning. Nevertheless, the views of people on practical limitations and methods to get over them were ascertained and the scope and limitations of each area have been gauged to the extent possible. Detailed reports have been appended for each State and region.

In the following paragraphs, a review of the scope and limitations and a review of the specific action required for the expansion of the area have been rendered.

1. AVAILABILITY OF LAND.

Nearly 34864 to 37864 acres of assessed and unassessed waste lands are suitable for the planting of arecanut, out of which 21,090 acres are in the Sub-Himalayan West Bengal and Assam Valley regions, Khashi and Jaintia Hills and Surma valley of Assam, and 13,292 acres are in Karnataka malnads of North Kanara and Coorg, besides about 90,100 acres in the Malabar District of Madras

State. The Mettupalayam tract at the foot hills of Nilgiris in Coimbatore Districts has also 482 acres fit for areca cultivation.

It has also been estimated that the additional production by commissioning these areas will be more or less as follows, based on the ranges of present yield known:—

	Production (in lakhs of maunds)
Within 7 years of planting ..	1.68 to 1.92
Within 15 years of planting ..	1.67 to 1.95
Total.	3.35 to 3.87

The whole matter is based on the assumption that the areas will be commissioned to areca simultaneously, which however is a remote possibility in a perennial crop. Therefore greater need exists for intensive cultivation also which might be possible over 1,50,000 acres of the existing belts.

As the many Flood Control Schemes under Progress are likely to relieve a last portion of the Brahmaputra valley and the Surma Valley in Assam, considerable area can be expected for new horticultural activity in the not distant future. The present survey was limited to the areca growing regions only for obvious reasons. Since further need exists for exploring all the possibilities of expansion of area to the fullest extent possible, it would appear that another survey of the following regions also may not be out of place, in course of time:—

- (i) The maidans of Mysore; (ii) the Salem (Vasista Nadi Valley) tract of Madras; (iii) Malnads of Coimbatore and

Nilgiri districts; (iv) Eastern foot hill regions of the Western Ghats from Palghat gap to the southernmost point in Madras State; (v) the low rainfall regions in the Dharwar, Belgaum and Hubli districts of Bombay State corresponding to the Maidans of Mysore; (vi) Sub-Himalayan regions of Bihar, U. P. and further west; (vii) the State of Orissa; and (viii) the deltaic coconut tracts of Madras and Andhra States.

As most of these are in the low rainfall regions, the risk of the fruit fall disease may not exist.

2. About 5,000 acres in the malnads of Mysore and 8,000 acres in the North Kanara up-ghat regions of Bombay State can be brought under areca if the forest regulations are relaxed. In South Kanara and Malabar of Madras also similar scope exists. Large tracts of areca garden area were absorbed into the forests in the past between 1881 and 1923 and subsequently also. The areca growers of the Karnataka malnads claim that these areas should be restored for areca cultivation. Since the Forest Policy is more or less known as 'rigid' the extent of such scope has not been taken into consideration now. However, negotiations can be made for the release of suitable areas and for relaxation of forest regulations. There was a system of long term leasing of forest valleys for the cultivation of areca till recently in the South Kanara District of Madras. And that can be commended to all the States on the South West as a step towards encouragement of arecanut cultivation. Madras Government is again following a

liberal policy of accommodating the expansions of plantation crops in the private forests valleys although legislation exists for the preservation of private forests. The needs of areca also may be recommended to them.

3. Owing to the economic disabilities and acute labour scarcity, large blocks of paddy areas are lying fallow as in Assam and the malnads of the South West. In the latter sector, there is a tendency to convert the rice fields which have assured water supply into areca gardens on account of the lower capital outlay on reclamation work. 10,000 to 20,000 acres of areca gardens have also gone under fallow in the past and subsequently some of these have been converted into paddy lands in the North Kanara-Mysore-South Kanara tracts. In view of this and the present need to expand the areca area for which the scope under assessed and un-assessed wastes seems to exist only in very difficult terrains requiring heavy capital outlay on reclamation, it may be considered whether the present tendency may be endorsed and assistance rendered to the conversion of these classes of paddy lands also.

4. PRESENT TRENDS OF EXPANSION OF AREA.

The expansion of area is in full swing everywhere except in the major portions of North Kanara District where the growers have not recovered from the last slump.

It has not been possible to assess the exact increase in area owing to the peculiar handicaps imposed by the system of cultivation in certain parts and the terms of land revenue levy in certain other parts. Reference may be found in the detailed reports of each region to the specific localities where phenomenal expansion in area is taking place. Assam valley which used to import the local requirements has, of late, begun to export considerable quantities of dried supari (chali) by rail, river and air. This rapid cross-sectional tour of all areca areas leaves an impression that the visible expansion in area or expansion due to scattered and mixed or under-planting must have belied all the computations of the last regarding the marketable surplus in each area. Besides this, as a result of the price incentives, intensive cultivation has been adopted in many localities which should also be considered to have naturally swelled the production, and rendered all the information at our disposal obsolete, even after making due allowances for the effective loss of area due to the permanent diseases like the 'Band' of Bombay, the 'Stem breaking disease' of Madras and the 'Yellow leaf disease' of Travancore-Cochin. It is well known that this perennial crop has a heterogenous dispersion in the different natural tracts; and therefore the results of random sample surveys on area and production have only very

limited application. Naturally therefore a thorough and intensive marketing survey of all centres of production, assembling and distribution and lend some data comparable with the results of area and production surveys and may also prove to be an indispensable guide to any future expansion programme.

5. ASSIGNMENT OF WASTE LANDS.

As a policy, waste lands are assigned only to landless labour and poor, from whom organised efforts for garden planting cannot be expected. It may be necessary to persuade the State Governments to consider favourably and make liberal grants of waste lands in case of firm demands for the blocks of land for areca cultivation even though they may be from rich and well-to-do classes. Agrarian reforms and declaration of ceiling on existing holdings are under way in every state and therefore the outlook on development of land is very fluid and capital also is very shy. In the States of West Bengal, Assam, Madras and Bombay, executive orders and legislative enactments are in force for requisitioning private waste lands. Some amendments and modifications may be necessary to suit the needs of arecanut cultivation. The ruling prices of private waste lands vary in each locality and it is anything from Rs. 200 to Rs. 1,000 per acre.



Grading of Sliced Boiled Arecanuts.

(Continued)

Samples of sliced boiled arecanuts in the chief producing, distributing and importing centres in Madras State.

Malabar is the chief producing District for sliced and boiled arecanuts in Madras State. Madras, Vellore, Panruthi, Nagapattanam, Madurai and Virudhunagar are some of the important distributing markets for sliced and boiled arecanuts. Besides, some of the markets like Madras, Panruthi and Nagapattanam are also importing markets which import a considerable quantity of arecanuts from Ceylon, Malaya and Singapore. The Indian arecanuts that come to these markets are prepared in two ways, viz. (1) sliced or single cut unboiled and dried and (2) sliced or single cut boiled and dried. The former are called 'Iylon' and 'sithanam' as the case may be and the latter are called 'chur' and 'ottavettu'. A small quantity of foreign arecanuts that come to some of these South Indian markets also come in the form of 'Iylon'. Besides, considerable quantity of foreign

nuts that come to Madurai, Virudhunagar and Panruthi markets also come in the form of unboiled single cut nuts called 'sithanam', 'ududuram' etc.,. The method of preparation of unboiled sliced 'Iylon' nuts is that tender nuts are first husked and cut into thin slices about 4 to 8 in number depending upon their size and stage of maturity and dried in sun or fire as the case may be. But both in Malabar District and Travancore-Cochin State, where tender cut and sliced arecanuts are processed during the thickest part of the monsoon, drying in sun becomes impossible. Hence drying is to be done on smoky fire; A platform is erected at a height of about four feet from the ground, having a roofing to protect it from rain. A bamboo mat is spread on the platform and fire is placed underneath to give a uniform smoky heat to the arecanuts spread on the mat. Arecanuts

are shirred at frequent intervals so as to give them a uniform heat. It takes about three or four days to dry the arecanuts in this manner. Arecanuts thus dried, will generally be darkest in colour and fetch a lower price in the market than sundried arecanuts which have a uniform lustrous chocolate colour.

The 'chur' (tender nuts cut into four or more bits lengthwise) and 'Ottavettu' (tender nuts cut into two equal bits breadthwise) are prepared after boiling them. Tender nuts are first husked and cut according to the requirements as 'chur' or 'ottavettu' and boiled in water for about an hour. The exact duration of boiling is known only by adequate experience in this line. After the nuts are boiled, they are removed from the copper vessel and cooled for some time. They are then given a thin quoting of 'Kali' solution (kali is the concentrated extract got after boiling the tender arecanuts) and dried either in sun or on smoky fire as described already. This is generally the method followed in the preparation of sliced and boiled arecanuts that come from Malabar District and Travancore-Cochin State.

The samples of arecanuts can be classified as follows:—

SLICED AND BOILED ARECANUTS

Indian		Imported		
Unboiled dried		Boiled dried		
1. Iylon (thinly sliced)	2. Sithanam, ududuram etc. (Single cut).	1. Sundried split (fully matured) Kottapak.	2. Sundried single cut (Sithanam) (Ududuram) etc.,	3. Sundried sliced (Iylon)
	Chur (four or more pieces cut lengthwise).	Naluvettu (four pieces breadthwise).	Ottavettu (two equal bits-breadthwise).	

Under each of the main classifications noted above, a large number of grades are prepared. The factors taken into consideration in judging the quality factors of the nuts are generally their size, colour, shape, stage of maturity, moisture content etc.,. The stage of maturity generally plays a predominant part in determining the quality of nuts under each classification. The tender superior nuts always fetch a premium price over the overmatured inferior nuts. Grading as a technique has not developed in any of the assembling markets in Malabar District as it is in Mysore and Bombay States. In Malabar, the grower generally does not undertake curing of the nuts. He harvests the nuts from the tree and husks them and sells them to the curer-cum-merchant in the nearest assembling market for arecanut who undertakes their processing. The curer first makes a preliminary grading of the tender raw nuts from the bulk on the basis of their size and stage of maturity. He picks out by hand during the cutting operation all big sized and overmatured nuts. The big sized nuts are generally cut into four or more bits for the preparation of 'Chur' 'Iylon', 'Erasal' etc., while the small sized nuts are cut into two bits breadthwise for the preparation of 'Ottavettu' (single cut) nuts. The matured and over-matured nuts are boiled and dried separately. After all the curing process is over, the curer picks out again the over-matured 'vettai' nuts, if any, from the bulk before packing them.

As colour also plays an important role in determining the quality of the nuts, the boiled

nuts are given a thin quoting of Kali solution before drying them with a view to give a lustrous chocolate colour. In Virudhunagar and Madurai markets even the unboiled 'Sithanam' nuts are given a thin quoting of 'Varakavi' colour to make them look more attractive. The unboiled nuts are also given a sulphur fumigation to prevent them from any fungus attack and also to give them a bright reddish colour.

Virudhunagar Market :—This is an important distributing market in Ramnad District in Madurai-Shenkottah line for both Indian and imported arecanuts. The foreign nuts mostly come from Ceylon while the Indian nuts come from Malabar and Palai, Ponkunnam, Kottarakkara, Trichur, etc., in Travancore-Cochin State. A very small quantity of 'Deshavaram' arecanuts (single cut nuts) also come from Mysore State when the supply from Travancore-Cochin State and Malabar is meagre. The nuts from the assembling centres come to this market in unassorted bulk. They are then graded according to the different sizes with the help of sieves of different sizes and are given sulphur fumigation. Some of the inferior nuts which are subject to fungus attack are also given a thin quoting of 'Varakavi' colour to make them look more attractive and to cover their defects, if any. The nuts coming from Travancore-Cochin State and Malabar, especially harvested and processed during the early part of the season (June, July and August) are not completely dried and as such they are soft when pressed. Owing to excess of moisture content in

them, they are liable to fungus attack very soon, and it is said that whenever there is delay either in despatch owing to want of railway booking or in marketing owing to want of immediate demand, they are subjected to frequent sulphur fumigation. The names of grades, and the method of preparation for the market are said to be the same for the Indian and Foreign nuts.

Indian Nuts :—

'Palai' (Unassorted): This represents the unassorted bulk containing arecanuts of different sizes as they come from the assembling markets in Travancore-Cochin State. It is said to have come from Palai market in Travancore-Cochin State. It is a mixture of tender and over-matured nuts of different sizes. The method of preparation of the nuts is that tender nuts are harvested from the tree and husked. They are then cut into two equal bits breadthwise and dried on fire *without boiling*. As harvesting and drying ARE TO BE done during monsoon months, drying in sun becomes impossible.

'Palai Sithanam'. They are tender nuts cut into two equal bits breadthwise and dried on fire. From the unassorted bulk described above, small sized tender nuts are picked out either by hand or by sieves of 5/8" diameter. Over matured nuts are picked out by hand from the bulk. They are marketed mostly in Ramnad, Madurai and Tinneveli Districts. The nuts have a dull brownish colour, and owing to their immaturity have a somewhat shrivelled appearance.

'Palai Ududuram'. As described earlier, when the bulk is

sieved with a sieve of 5/8" diameter what is left on the sieve called 'Ududuram' (medium size). They are also tender unboiled sliced nuts and have the same quality factors as 'Palai sithanam'. But they are a little bigger than 'Sithanam' nuts in size. Being a little bigger they do not have a very shrivelled appearance like 'Sithanam' nuts.

'Palai Ududuram' Special. When there is an occasional demand for slightly smaller sized nuts, the 'Ududuram' nuts are again sieved with the help of a sieve having smaller holes to obtain 'Ududuram special' nuts. There is no speciality about them except that they are slightly smaller sized nuts in 'ududuram'.

'Palai Ududuram Vettai'. The overmatured (Vettai) nuts are sorted out from the bulk of 'Ududuram' nuts. They have a bold appearance and have a somewhat woody taste. They are also harder than 'Ududuram' nuts. The 'Vettai' nuts are mostly marketed in Pudukottai, Tanjore, Karaikudi etc.,. Being over-matured, they are considered as inferior in quality to 'Ududuram' nuts.

Palai Sithanam Vettai. These are inferior over-matured nuts picked out from the bulk of the superior 'Palai Sithanam' nuts. Being over-matured, they have a bolder appearance unlike 'Sithanam' nuts which are a little shrivelled. Like all vettai nuts, they are hard and woody in taste. They are chiefly marketed in Tanjore and Trichy Districts.

'Chur pak'. They are obtained from immatured nuts cut into about 6 to 8 pieces lengthwise and dried on smoky fire, without boiling. They are also given a

'Varakavi' colour to make them look very attractive. They are prepared in the northern regions of Travancore-Cochin State like Trichur, Alwaye etc., and in South Malabar. They are mostly sold in Tinnevelly, Madurai and Ramnad Districts.

'Shimoga Deshavaram' (Unboiled) They resemble the tender Sithanam nuts being cut into two equal bits breadthwise and dried in sun without boiling. Generally, unboiled nuts of this type are not prepared in Mysore State. Being well-dried, they are harder than the 'Palai Sithanam' nuts. These nuts are not sold as such in the market but a small proportion of them are mixed with the 'Palai' Sithanam' nuts and sold as 'Palai' nuts. The only distinguishing feature between these two varieties is that the Mysore nuts being well dried are harder than the 'Palai' nuts.

Shimoga Deshavaram. (Boiled). These are tender nuts cut into two equal bits breadthwise and boiled in Kali solution and dried in sun. There is no good and regular demand for this type of arecanuts in this market. It is mostly consumed in Madras, Vellore and Andhra Districts. The method of processing and their chief quality factors have been described earlier.

'Colombo Sithanam' (Foreign.) They are foreign nuts imported from Ceylon. They are tender nuts husked and cut into two equal bits breadthwise and dried in sun. They resemble the 'Palai Sithanam' nuts in appearance. But unlike 'Palai' nuts they are harder and more brittle being well dried in sun. It is said to be more astringent in taste than 'Palai' nuts so that a consumer gets satisfied by using one or two

nuts at a time while he will have to use three times that number when he uses the 'Palai sithanam' nuts for chewing. It is this quality of the foreign nuts that attracts the poor consumer. It is, therefore, said to be more economical to use 'Colombo' nuts than 'Palai' nuts.

'Kilimanur Sithanam'. This is also produced in Travancore-Cochin. Kilimanur is the name of the place in Travancore-Cochin state. These nuts resemble the 'Palai Sithanam' nuts in appearance and the method of preparation etc., is the same as Palai nuts. But they are lighter than 'Palai' nuts. No overmatured or 'Vettai' nuts are generally found in the bulk. The only distinguishing feature of this variety is said to be its lightness. The markets for them are the same as for 'Palai Sithanam' nuts.

Parakod Sithanam. These nuts also come from Travancore-Cochin State. Parakod is the name of the place where these nuts are produced. The method of preparation is the same as 'Palai Sithanam' nuts, i.e., tender nuts are husked and cut into two equal bits breadthwise and dried on fire without boiling. Unlike 'Palai' and 'Kilimanur Sithanam' nuts, they are coloured with 'varakvi' colour (dark red colour) to make it look more attractive. This colour which is in the form of a powder is mixed with the semi dried arecanuts. The fine powder sticks on the surface and gives them an attractive colour. These nuts are generally marketed in Ramnad and Tinnevelly Districts. No over-matured nuts are generally found in the bulk of these nuts.

Standard packing. The arecanuts that come to this market from the producing centres in Travancore-Cochin State are packed in gunny bags containing 155 lbs. net. But after they are graded and fumigated, they are packed in single gunny bags to contain 100 lbs. net.

Cost of Sorting. A woman sorter is paid about Re.1/- per day for about 8-10 hours of work. She is expected to sort about 150 lbs. into different grades. The bags are generally given a sulphur fumigation before despatch from the market.

Madura Market:— Madurai is another important distributing market for sliced arecanut in Madras State. The market practices are more or less the same as they are in Virudhunagar. Both imported nuts from Ceylon and Indian nuts from Travancore-Cochin State and Malabar are handled in this market. As it is in Virudhunagar market, the most important variety of nuts dealt in this market is the single cut unboiled nuts (sithanam). The names of grades of both Indian and imported nuts are the same. The nuts generally come to the market in an unsorted condition. Soon after they arrive in this market, they are given a sulphur fumigation. They are then sorted into different grades on the basis of their size, shape, stage of maturity and colour. If the nuts are to be stored for a long time, they are given sulphur fumigation once a fortnight. Grading is done only at the time of sale. Sometimes if the nuts are very inferior and are subject to any fungus attack, they are given a Kavi colour (as in Viru-

dhunagar) to cover them from the defect. The following gives a brief description of the samples of arecanut in this market.

Palai Sithanam. These nuts possess the same quality factors as the 'Palai Sithanam' nuts in Virudhunagar market. They are tender small sized nuts cut into two equal bits breadthwise and dried on fire (without boiling). The unsorted nuts are sieved in sieves of 5/8" diameter and the small nuts that fall below are 'Palai sithanam' nuts. Owing to their immaturity of growth, many of the nuts will have a shrivelled appearance. They have a dull reddish colour. Owing to want of adequate drying, they are soft unlike 'Colombo Sithanam' nuts which are hard. In taste also they are not as astringent as 'Colombo' nuts. It is said that the nuts that come to the market during the late months of August and September will be slightly more matured and as such do not possess so much of a shrivelled appearance. Besides, they are said to be slightly harder than the nuts harvested and processed during the beginning of the season (June and July). The 'Palai' nuts are also said to be lighter than the imported 'Ceylon' nuts. The prices of both the nuts (imported and Indian Sithanam) are generally on a par with each other and any fluctuation in the price of the one will have its immediate reaction on the price of the other.

Palai Ududuram. These are slightly bigger than 'Palai Sithanam' nuts. The method of preparation of these nuts is the same as the 'Palai Sithanam' nuts as described above. They are generally $\frac{3}{4}$ " in size, while 'Sithanam'

nuts being smaller are about $\frac{1}{2}$ " only.

Palai Special. Sometimes in order to cater to the demand for small sized nuts, small nuts which are bigger than 'Sithanam' nuts and smaller than 'Ududuram' nuts are picked out. These sorted nuts are called 'Palai Ududuram special' nuts. The other quality factors are said to be the same as 'Palai Ududuram' nuts.

Palai Sithanam Vettai. These nuts are picked out from 'Palai Sithanam' nuts. They are over-matured nuts having a bolder appearance. They are somewhat woody in taste.

Palai Ududuram Vettai. They are over-matured nuts picked out from 'Palai Ududuram' nuts. They are bigger than 'Palai Sithanam Vettai' nuts. Being over-matured, they are harder and have no shrivelled appearance.

Palai Thundu. They are irregularly cut nuts picked out from the unsorted bulk. They consist of broken nuts of varied shape and stage of maturity collected from 'Palai' nuts.

Colombo Thundu. They are also irregularly cut nuts collected from unsorted bulk of foreign (Ceylon) nuts. They have a dull appearance and are hard to chew. This is graded as an inferior variety and fetches a very low price in the market. It is said that when 'Palai thundu' nuts are scarce in the market, a smaller percentage of these nuts are mixed with 'Palai thundu' nuts and are sold as 'Palai' nuts.

Colombo salankai. These are small bits of imported (Ceylon) arecanuts collected after the bigger

nuts are heaped and filled in bags. As they are very small broken pieces, they have no regular shape. It includes even the dust and waste matter of arecanuts. It is said to be the lowest grade in arecanuts available in this market.

Trichur Chur. These are tender arecanuts husked and cut into about 6 to 8 pieces lengthwise and boiled and dried on fire. They are mostly prepared in the Trichur District of Travancore-Cochin State, and South Malabar in Madras State. Like the 'Chur' nuts prepared in Mysore State they are hard and brittle. They have a good lustrous colour. It is said that after the tender nuts are cut and boiled for about an hour, they are given a thin coating of Kali solution and dried on fire.

Trichur Chur Vettai. These are prepared out of more matured nuts. Big sized over-matured raw nuts are picked out from the husked head of raw nuts and cut, boiled and dried separately. Being more matured, they are harder and have a weedy taste. With a view to make them look more attractive, they are also given a thin coating of 'Varakavi' colour.

Colombo Sithanam Kamal. They are foreign nuts prepared in Ceylon. They are immature raw nuts cut into two bits breadthwise and dried in sun. The notable distinguishing feature between 'Colombo Sithanam' nuts and 'Palai sithanam' nuts are said to be that the former are harder in texture, darker in colour, more astringent in taste and heavier in weight.

Colombo Ududuram Vettai. These nuts resemble the 'Palai Ududuram Vettai' nuts. They are

Indian Council of Agricultural Research

Farm News Release No. 56.

AMMONIUM SULPHATE FOR VEGETABLES.

Time of Application.

New Delhi: Vegetables are benefited if they are given quick acting nitrogenous fertilisers, like ammonium sulphate, once or twice as top dressing. The fertiliser should be applied near the roots, and it should not be allowed to come in direct contact with the leaves.

A handful of ammonium sulphate is generally found sufficient for about a square yard of the vegetable plot. The fertilizer should be well mixed in the soil

imported nuts from Ceylon and the method of preparation is said to be the same as the 'Palai' nuts except that they are dried in sun. They are over-matured (Vettai) nuts picked out from the 'Ududuram' nuts. They are said to be heavier in weight and more astringent in taste than 'Palai Ududuram' nuts. They are also slightly smaller in size than them.

Unit of weight. The tender superior nuts, viz. 'Sithanam' and 'Ududuram' nuts are packed in single gunny bags to contain 100 lbs. net., while the over-matured inferior 'Vettai' nuts are packed in single gunny bags to contain 140 lbs. net. If the means of transport used are railway, then double gunny bags are used.

by a light hoeing and the land irrigated immediately thereafter.

The right time for top dressing is when the plants are well established and their growth is rapid. A second top dressing can also be given a little before plants start flowering. At these two periods, the food requirement of the plants is generally high, and the fertilizers will meet this demand.

Farm News Release No. 60.

IRRIGATING VEGETABLES SIMPLE RULES TO FOLLOW.

New Delhi: Farmers sometimes tend to overirrigate their vegetable crops. This has been found to lead to diseases like 'damping off'. Thick showing of seeds in a nursery also results in similar diseases.

Though there can be no hard and fast rule about the frequency of irrigation, water should normally be given when the upper layer of soil shows signs of drying level. A shallow irrigation which leaves the root zone dry is of no value.

Farm News Release No. 61.

PLACING FERTILIZERS FOR CROPS SIMPLE AND CHEAP ADVICE.

New Delhi: A cheap and simple device has been evolved at the Indian Agricultural Research Institute, New Delhi, for placing fertilizers at proper depths for crops.

Placement of fertilizers has distinct advantages over the usual

method of broadcasting. This way, not only economy is effected in the fertilizers, but they are better utilized by the plants.

The device for placing fertilizers consists of *poras* which are metal or wooden tubes with a funnel attached to the top and clamped to the commonly used horse hoe. The lower end of the *pore* is bolted on to a thin iron plate bent to the shape of 'U'. With such a device, not only can seed be drilled with the fertilizers, but the width and depth can also be adjusted.

The device can be prepared in villages and will cost about Rs.15/-.

News and Notes.

1. Mr. Malcolm Orchard of the Technical Co-operation mission of the United States and the Secretary, Indian Central Arecanut Committee visited Coimbatore and South Kanara Districts between the 13th and 16th September 1955 for preliminary location of sites for filming of arecanut industry in India.

2. Shri Prabhu Narayan Das, Gorubathan village of Darjeeling District in West Bengal has been nominated as a member of the Indian Central Arecanut Committee to represent the growers' interest.

3. Arecanut seedlings:—8426 Seedlings were sold from the Arecanut Nursery, North Malabar up to August '55.

4. Forward Contracts (Regulation) Act.

Govt. of India Notification.

No. 30155-1P(b). I.—In exercise of the powers conferred by Section 17 of the Forwards Contracts (Regulation) Act, 1952 (LXXIV of 1952), the Central Government hereby declares that no person shall, save with the permission of the Central Government, enter into any forward contracts for the sale or purchase of any of the goods specified in the schedule annexed hereto:—

Provided that this notification is so far as it relates to any forward contracts for the sale or purchase of Betelnuts, Cardamons, Chillies, Cinnamon, Cloves, Ginger, Pepper, Turmeric and Nutmeg, shall not apply in the State of Travancore-Cochin.

Schedule :

1. Betelnuts.
- 2-12 other goods.

MARKET REPORTS

Average Weekly Prices of Arecanut during the month of AUGUST 1955.
(Price in rupees per standard maund of 82-2/7 lbs.)

1. At SHIMOGA Market in MYSORE STATE.

Name of quality	WEEK ENDING			
	6th	13th	20th	27th
	Rs.	Rs.	Rs.	Rs.
Pheeton	149 12	149 12	150 10	150 10
Desavaram	149 6	149 6	149 12	149 0
Rajalu	140 11	141 6	143 3	142 0
Vanti Bette	111 9	111 15	112 6	112 6
Gorabalu	74 8	74 8	71 9	71 9

II. At BOMBAY Market in BOMBAY STATE.

Name of quality	WEEK ENDING			
	6th	13th	20th	27th
	Rs.	Rs.	Rs.	Rs.
Mangalore Navi				
Vachar Best	127 8	130 0	130 0	
Sirsi Toanchi	200 0	212 8	212 8	
Sirsi Safed	112 8	112 8	116 0	
Ceylon Nuts	105 0	105 0	105 0	
Singapore Nuts	108 8	107 0	110 0	

III. At CALCUTTA Market in WEST BENGAL STATE.

Name of quality	WEEK ENDING			
	6th	13th	20th	27th
	Rs.	Rs.	Rs.	Rs.
Sundried (sliced)	100 0	100 0	100 0	
Ceylon nuts	112 0	108 0	108 0	
Singapore nuts	108 0	106 0	106 0	
Penang Nuts	106 0	104 0	104 0	

IV. In TRAVANCORE—COCHIN STATE.

Name of market	Name of quality	WEEK ENDING			
		6th	13th	20th	27th
		Rs.	Rs.	Rs.	Rs.
Trichur	Erasal.	132 14	136 9	141 15	
	Iylon.	110 0	115 3	116 14	
	Choor.	124 4	132 12	125 1	
Alleppey	Assorted.	91 13	69 3	67 9	61 0
	Garbled.	95 8	73 8	69 13	66 2

V. In HINDUPUR Market in ANDHRA STATE.

Name of quality	WEEK ENDING			
	5th	12th	19th	26th
	Rs.	Rs.	Rs.	Rs.
Billa	137 2	140 9		
Churu	137 2	137 7		
Podi	69 7	72 0		

VI. AVERAGE WEEKLY PRICES OF ARECANUT DURING AUGUST 1955
IN MADRAS STATE.

Name of market	Name of quality	WEEK ENDING			
		6th	13th	20th	27th
		Rs.	Rs.	Rs.	Rs.
Mangalore	Supari New.	N. S.	N. S.	N. S.	N. S.
	Supari Old	123 1	124 14	121 10	121 4
	Koka	79 0	79 0	79 0	79 0
Madras.		NO REPORT			
Palghat.		NO REPORT			

FOREIGN MARKETS.

I. Average weekly prices of arecanut in COLOMBO market in Ceylon during
AUGUST 1955.

(Prices in Indian Rupees per maund of 82-2/7 lbs.)

Name of quality	WEEK ENDING			
	6th	13th	20th	27th
	Rs.	Rs.	Rs.	Rs.
Whole Arecanuts.				
Average quality	29 12	29 12	29 12	
Whole No. 5	33 7	33 7	33 7	
Whole No. 6	32 0	32 0	32 0	
Whole No. 7	29 6	29 6	29 6	
Vedial	3 2	3 2	3 2	

II. Fortnightly prices of arecanut in SINGAPORE during JUNE 1955.

Name of variety :—Split Bukit Batu.

Date	Price in dollars per picul.
1-6-1955.	30.00
15-6-1955.	30.00
30-6-1955.	44.00

(1 picul = 133-1/3 lbs. and 1 dollar = 1.54 Indian Rupees)

19/246
20/246
21/246

III, Statement showing the quantities of arecanut (betelnut) imported into different ports in India and their value during the month of JULY 1955.

Ports to which imported.	Places from which imported.							
	CEYLON.		SINGAPORE.		FEDERATION OF MALYA.		TOTAL.	
	Quantity. (Cwts.)	Value. (Rs.)	Quantity. (Cwts.)	Value. (Rs.)	Quantity. (Cwts.)	Value. (Rs.)	Quantity. (Cwts.)	Value. (Rs.)
Bombay.								
Calcutta.	5325	272001	40206	1931173	5756	286335	51287	2489509
Madras.	1909	95124	4942	251289	2664	95984	9515	442397
Saurashtra.								
Total.								

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