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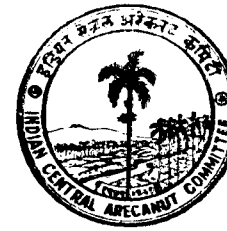
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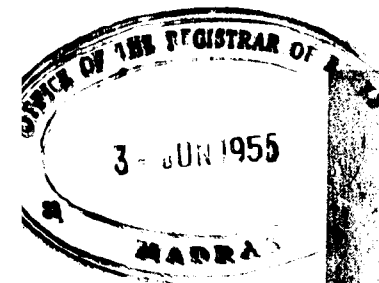
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ARECANUT BULLETIN

MAY 1955—Vol. VI.—No 2.

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Grading of Arecanuts

ISSUED BY

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

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As the information in this Bulletin has been collected from various sources, the Indian Central Arecanut Committee cannot take responsibility for its correctness.

"ARECANUTS IN MALAYA"

BY

K. K. NAMBIAR,

Secretary, Indian Central Arecanut Committee,

CALICUT.

A lucid account of the agricultural conditions with special reference to arecanuts in Malaya & Singapore.

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— 21 —

"Biligotu" or "Chali Supari" (Mature, whole, sun dried Arecanuts) of South Kanara.

From Madras Agricultural Journal Vol. XLII Febr. 1955.

Arecanut (areca catechu) though grown over an area of only 23,707 acres in the district of South Kanara, plays yet an important role in the economic welfare of a large number of villages especially some of the interior villages of the district where; even lands which could not usefully be utilised for any other crop production, have been brought into flourishing arecanut gardens with the result that the district is today exporting over 2,00,000 cwt. of arecanuts per year valued at over three crores of rupees. It is the only area in the country where practically the whole of the production is harvested when the nuts are fully ripe and converted into "Chali supari" which is in great demand in Northern and Central India. "Chali supari" of Mangalore is noted for its superiority over nuts of North Kanara and parts of Malabar and is found to have better demand and better prices.

Preparation.—The nuts are harvested when they turn yellowish on the tree and are fully ripe. These are immediately spread evenly on a level ground for sun-drying and dried thus for 40 days with regular turning of the individual nuts to enable uniform drying. A regular watch has to be kept during the period which will cost about Re. 1 per cwt. of nuts on an average. The nuts are then husked at Re. 1 per cwt. and the inferior and blackened nuts

separated and sent to the market for sale.

Transport.—There are regular goods transport lorry services available from practically every part of the district and the cost of transport is Rs. 1—8—0 per cwt. on an average.

Assembling.—The main or practically the only assembling centre for arecanuts in the district is Mangalore which is the only export market. Though there are a few dealers who purchase the produce from the growers in the interior villages, the whole quantity finally is sent to Mangalore for sale and export.

Marketing.—There are a number of commission agents at Mangalore with sufficient number of godowns to stock and arrange for the sale of arecanuts received from the villages. The sale is done under cover of cloth with a number of shippers bidding at the sales. The commission agent not only gives advances on the produce brought for sale through him but also gives credit to the shippers on his own responsibility. "Supari" trade may be said to be one of the major trade transactions in the Mangalore market. The commission for the sale is paid by the grower which is now fixed at Rs. 3—8—0 per cwt. by the regulation of the Market Committee. This commission includes all the charges including godown rent, weighment, etc. The

produce is sold as received from the growers without any further grading or sorting.

Shipping.—The shipper immediately on purchase fumigates the arecanuts with sulphur-dioxide, then grades it through sizers for the different consuming markets mainly into four grades:

1. Moti special—1" and over in diameter.
2. Srivardhan special—0.9" and over but below 1".
3. Jamnagar special—0.8" and over but below 0.9".
4. Jeeni special—under 0.8".

All discoloured and broken nuts etc. are handpicked and separated. The nuts are now ready for shipment. These are generally packed in new double gunnies, stitched, marked and tied over with coir ropes. The average expenditure by the shipper is Rs. 7 per cwt, as shown below for a shipment of 188 cwt. shipped from Mangalore to Bombay.

	Rs. A. P.
Charity	18—14—3
Manifest writing	1—0—0
Dock fees	12—7—6
Freight	380—4—0
Marketing the bags	6—9—3
Stitching charges	22—4—3
Coir rope and tying	30—5—0
Labour charges	117—15—6
Boat hire	84—12—6
Weighment	2—5—9
Gunnies	305—15—6
Tarpaulin charges	1—5—0
Insurance	198—6—0
Hundi discount	39—12—0
Fumigation	35—6—3
Export fees	23—10—3
	1,281—4—9
Clerical charges etc.	34—11—3
Total for 188 cwt.	1,316—0—0



FARMERS' FORUMS TO BE ESTABLISHED

SUGARCANE CAMPAIGN TO BE INTENSIFIED

FULL TEXT OF DR. DESHMUKH'S BROADCAST

The plan for the establishment of Farmers' Forums throughout the country was announced by Dr. P. S. Deshmukh, Union Minister for Agriculture, in a broadcast from the All India Radio tonight.

The full text of Dr. Desh-

The commission for the shipper at Mangalore is paid at 1½ to 2% of the cost of supari which works out to about Rs. 3 per cwt. at present. So, the actual cost of marketing till the produce reaches Bombay per cwt. is:—

Drying the nuts	Rs. 1—0—0
Husking	1—0—0
Transport	1—8—0
Seller's commission	3—8—0
Handling, freight etc.	
charges	7—0—0
Shipper's commission	3—0—0
Total	17—0—0

The quality of "Chali supari" of this district has to be kept up by the growers by strictly conforming to the complete drying of the nuts for 40 days, so that the market favour for Mangalore supari may be kept up. Due to the high prices of "Supari" during 1953-54 season, even partially dry nuts were brought and sold in the Mangalore market but this if continued may affect the whole market for Mangalore "Supari". The scope for reducing the charges of marketing and thus increasing the return to grower has to be explored.

mukh's broadcast is given below:—

Although I addressed my listeners on the anniversary of the first broadcast on the Japanese method of paddy cultivation on the 10th January last, I consider it necessary to celebrate as widely as possible the next anniversary of the intensive drive to propagate the improved methods of agriculture. This was first done on the 15th March, 1953, for the Japanese method of paddy cultivation and I wish that what was done then and repeated last year should be repeated on the 15th March, 1955, with still greater vigour, with better preparation and wider appeal.

At the informal meeting of Ministers in December last, the view was expressed by some Ministers of Agriculture that the Japanese method was now so well on its way to popularity and was spreading so fast that nothing much need be done by us at present. I did not feel much convinced then and feel a little disillusioned now.

This is based on the reports about the acreage put under the Japanese method during the current Agricultural Year, i. e., 1954-55 and what I observed in Madras and Andhra. It appears unlikely that we will attain even half of the target of 2 million acres we had fixed for this year. It is apparent the target was un-

realistic and excessive like our previous Grow More Food Scheme. Secondly, it is apparent that the progress is disappointingly uneven from State to State. While Hyderabad and Mysore have done a marvellous job of it and exceeded the target fixed several times over, and States like Bombay and Coorg have fulfilled their targets, I cannot say the same with regard to many of the other States.

NEED FOR ANOTHER DRIVE

I have no hesitation in claiming that what we have achieved is a veritable wonder unprecedented in the history of Indian Agriculture and yet I do not consider it wise that we should rest on these achievements of ours. It is my confirmed view that we must continue to press forward the propagation of all possible methods of better cultivation with all the zeal, enthusiasm and earnestness at our command. In view of the unevenness of the progress and the fact there is ample room for the spread of these methods, I request all concerned to undertake another full throttled drive beginning with the 15th March, 1955, and to demonstrate the method in as many places as possible, especially in areas where it is yet to be seen by the cultivators with their own eyes. I would also like the 15th of March to be utilised for popularising better methods so far as other crops are concerned. A booklet on better cultivation of sugarcane similar to the one on paddy has already been prepared and distributed. Unlike our middle of the season drive last time, we have indicated stages of the im-

proved method right from ploughing. I hope the distribution has been adequate so as to reach the largest number of cane-growers.

SUGAR POSITION

Our sugar production somewhat suddenly fell while at the same time the demand went up. This brought about a large deficit and left us no other alternative but to import foreign sugar in large quantities to meet it. I never liked this at any time, but there was no escape. Though the existing factories have been allowed to expand their present capacity and new ones are being rapidly licensed, additional production to achieve self-sufficiency would be only possible if yields per acre go up. Strangely enough, the average yield per acre as well as the sucrose content of our cane have for years tended to become lower in spite of what efforts were made by Government and the Indian Central Sugarcane Committee. As one of its members even before I became Minister, this caused me much disappointment. I always thought it would be easy to at least partially improve the situation. But owing to the fact that even as an M.P. my hands were too full with a variety of public activities, I would not pay any personal attention to the matter in spite of my great desire to do so. I was able to do this to a certain extent last year, and it is so gratifying that what little we did proved so strikingly successful.

SUGARCANE CAMPAIGN

Prompted by the results of our campaign on the Japanese method of paddy cultivation, and the capacity of our soil when tended

well to produce bumper crops, we launched in May last year a similar but somewhat belated campaign to step up the production of sugarcane. As sowing was already complete, we could not propagate the earlier steps and had to content ourselves with advising the growers to take to better methods only in their later stages. This was confined in fact to only a process of top-dressing. After a hurried conference with the Cane Commissioners and a few others from the States and my Ministry, arrangements to top-dress sugarcane crop with ammonium sulphate in Bihar, U. P., and the Punjab were made. With the experience of previous campaigns, people are naturally inclined to attribute the unusual improvement in our agricultural production to better weather and monsoon somewhat exclusively. It is common knowledge now that we had unprecedented floods this year and large areas were also affected by draughts. Strangely enough, both these calamities followed each other in rapid succession in exactly those parts where sugarcane is grown on a very large scale. We had more than a normal locust invasion, and pests of various kinds including the rats have not failed to cause havoc. There was also a prolonged and unwholesome break in the monsoon over a large part of Punjab and West U. P.

But with all that what we have achieved is truly astounding. The fact that the total production of sugar upto 22nd January 1955 this year is 5,69,037 tons as against 4,53,000 tons for the corresponding period last year,

is, I claim, a positive proof of what we have achieved. The area top-dressed with ammonium sulphate under this campaign was only 1,16,120 acres or just a little over a half of the target for 1954-55. The short fall in the target was due not only to floods and draughts and delayed rains in some areas, but also to maldistribution and insufficiency and untimeliness of the supplies of ammonium sulphate.

INCREASED USE OF FERTILISERS

It would be recalled how at one time the storing capacity of Sindri Fertilizer Factory was strained to a breaking point and it was proposed to export some ammonium sulphate outside India. Actually we not only consumed all that Sindri produces but a lakh of tons more. This is entirely and wholly due to the success with which we have carried on our most in expensive campaigns and the co-operation we secured. The target of acreage under sugarcane to be covered this year is bound to be much higher. But whatever it is, it must not only be attained but exceeded. This is my conception of a target. The drive for the intensive use of fertilizers will be carried out in U. P., Bihar, Punjab, Pepsu, Bombay, Mysore, Hyderabad, Andhra, Madras and Madhya Bharat.

To get the best results from the use of fertilizers we have to plan right from now not only to supply the chemical fertilizers and manure to the cultivators well in time, but also to attend to the other requirements for the production of a better crop. Proper cultural

operations and timely sowing of healthy, disease-free seed should be assured to get maximum return of the crop. Ratooning beyond a year and of diseased and patchy crops must be discouraged and instead of leaving ratoon crops uncared for, they should be given the necessary cultural care and manure at the proper time. Ratoon crops respond very well to manurial treatment and require as much nitrogen per acre as the planted cane. I repeat ratoon crops respond very well to manurial treatment and require as much nitrogen per acre as the planted cane. With these items properly taken care of to effect increase in production, I hope that the sugar industry in the country will be stabilised and we will have enough sugar to meet our demands, within not more than a couple of years from now. It was only yesterday I saw with my own eyes the result of our campaign on sugarcane started less than a year ago. It must be seen to be believed. I refrain from giving any details about it here. But the whole story like that of the Japanese method, I hope, be told one day in all its details.

AGRICULTURAL NEWSLETTER

I am glad to inform my listeners of the decision that we have recently taken. It has been decided that an Agricultural Newsletter should be published from New Delhi every fortnight beginning the 15th of March. This will be published in the English language for the time being and will cover the fields of agriculture, horticulture, animal husbandry, poultry, forestry, cooperation,

agricultural statistics, fisheries etc. in the form of short scripts, easily understandable notes, and important and interesting news items. It is expected to collect and collate information which at present lies unused in various periodicals, bulletins and other publications issued either by the Ministry of Food and Agriculture, and its attached offices, or by the State Governments' departments. It will also contain summaries of topical items of interest from other reports and hints regarding development in the fields already mentioned. The Gramsevak, Project Officers and the practical farmers are expected to be both its readers and users as well as its feeding channels. It is expected to be of help and guidance to the States' Information activities and it is hoped that the States may find them of use in utilizing the presses which have been allotted to them; wherever possible, the contents of the Newsletters may be translated in the local languages.

FARMERS' FORUMS

With the inauguration of the Second anniversary of the Japanese Method of Paddy Cultivation may also synchronize the inauguration of the Farmers' Forums in all the States. There is now perfect unanimity in the view that India needs a country-wide organisation of farmers and a Central Forum to express their views, ideas and opinions. There are several ways in which this may be possible, but I believe it will probably be accepted by all, that constituting an All-India Farmers' Forum with its counterparts in State, Districts, Tahsils and Villages, may be, under our

present circumstances, the best possible approach. In my view this would serve as an adequate and proper medium for the expression of the farmers' point of view and lead to the habit of group thinking. In any case, all those whom I have met, including the Ministers of Agriculture, with whom I discussed this matter last December as well as many others, were all in favour of it and heartily welcomed the idea. It is also intended that women from the countryside take their due place in these Forums.

Only last Sunday we had a meeting of the Central Governing Body of the Forum at which the working constitution under which it has been registered was approved. I do not intend this organization to be a rule-ridden one, but rather a something simple and elastic. Every effort will be made to utilize the energies of the Project Officers, Gramsevak and practical farmers and leading progressive agriculturists to help us in organising these Forums. We propose to call them 'Krishak Samaj or Sabha' in the Indian languages. I hope all concerned will take up the formation of Forums with utmost seriousness in their respective spheres.

LIKELY ADVANTAGES

The new fortnightly Newsletters would also be helpful in conveying information and establishing contacts with the forums at different levels. The greatest advantage would be the possible and very probable linking up of the All India Radio Farm Forum, which has been in existence for many

years. Its integration in the Farmers' Organisation is bound not only to increase its utility and give it a much wider field, but would be a very great asset to the farmers as our level of literacy is still as low as 16½% in the whole of India and probably hardly 10% in the rural areas. I wish to get all these various activities coordinated into a harmonious and effective channel so as to create an abiding link between the farmers on the plough, the various officials as well as non-officials who are working for their benefits and the educational and research institutions and workers. Other details with regard to the Forums together with model constitutions for the States, Districts, Tahsils, and Villages would be separately available. Some people, I find, have already gone ahead in forming the Forums. I would request them to get into touch with the office of the Farmers' Forum which has been opened in Delhi. I hope, therefore, that it would be possible to announce the formation of these Forums on the largest possible scale on the 15th of March, so that we may, within a short time, build up a countrywide organisation of progressive farmers, who are keen to associate themselves with these Forums for the mutual benefit of themselves and the country. It is also proposed to call a farmers' conference under the Forum on 2nd and 3rd of April in Delhi. These dates are proposed with a view to make it synchronise with the celebration of the Jubilee of the Indian Agricultural Research Institute.

—: JAI HIND. :—

(I. C. A. R. Farm News release)

CO-OPERATIVE DEVELOPMENT AND WAREHOUSING BOARD.

With a view to promote co-operative Marketing and co-operative processing of agricultural products and to provide for adequate storage and warehousing facilities all over the country, the Government of India have proposed to set up a Planning and Financing Body to be called National Co-operative Development and Warehousing Board. This Board is proposed to have the Minister for Food and Agriculture as its Chairman and Secretary, Ministry of Food & Agriculture as its Vice-Chairman and 12 other members representing Planning Commission, Finance Ministry, Railway Board, Reserve Bank, State Bank of India, Transport Ministry, Forward Markets Commission and certain non-officials. The Government of India will make an annual allocation of Rs. 5 crores to this Board in connection with two funds—(a) The National Co-operative Development Fund and (b) The National Warehousing Development Fund.

The National Co-operative Development Fund is entrusted for making long term loans on suitable terms to State Governments to enable them to participate in the share capital of co-operative societies when undertaking such activities as processing, marketing milk supply, dairying etc. which fall within the purview of the objectives of the fund and also for giving recurring and non-recurring subsidies to State Governments through them to co-operative societies, for similar objects. As a rule, the State Governments are

REGULATION OF MARKETS IN INDIA

RETROSPECT & PROSPECT.

BY

R. T. Mirchandani,
Senior Marketing Officer, New Delhi.

From the Madras Agricultural Journal,
Vol XLII, No. 1, January 1955.

1. *Introduction* Orderly marketing acts as an excellent incentive for increased agricultural production and its importance in the planned economy of a country needs no emphasis. It is common knowledge that in our country the standard of agricultural markets where the produce changes hands for the first time from the producer to the tradesman and the farmer converts his crops into cash, is extremely poor. These markets

also called upon to meet not less than 25% of the total expenditure incurred from their State Funds.

The National Warehousing Development Fund will be utilised by the Board for (a) subscribing to the share capital and for making advances to the All India Warehousing Corporation (b) making loans to State Governments for subscribing to the share capital of the State Warehousing Companies in their States and (c) making recurring or non-recurring subsidies to certain co-operative organisations through State Governments or the All India Warehousing Corporation for the promotion of the objectives of the Fund.

(Extract from the journal of the Agricultural situation in India, January 1955. Bulletin issued by the Economic and Statistical Adviser, Ministry of Food & Agriculture, Government of India.)

barring those now regulated are generally ill-equipped to fulfill the functions which are theirs, in the country's economy. The Royal Commission on Agriculture (1928) commented at length on the defects prevailing in agricultural marketing and recommended that "these can only be removed by the establishment of properly regulated markets". The findings of the Royal Commission were fully borne out by the surveys on the marketing of several agricultural commodities conducted by the Directorate of Marketing and Inspection. Among several measures recommended by the Planning Commission for improving the efficiency of the marketing system and for promoting orderly marketing of agricultural produce, regulation of markets and market practices has been recommended as a first step.

2. *Progress of regulation, (a) Legislation:* Prior to the report of the Royal Commission on Agriculture, statutory regulation of markets was in force in Berar then known as the "Hyderabad Assigned District" and the Bombay State had enacted the Bombay Cotton Markets Act in 1927. The emphasis laid by the Royal Commission on Agriculture had a salutary effect, and resulted in a number of States taking steps in this direction. Market Acts empowering market regulation have since been passed in a number of States. Prior to the first Five Year Plan, Acts for regulation of markets and market practices were passed and enforced in the States of Bombay, Madras (composite), Madhya Pradesh, Punjab, Pepsu, Hyderabad and Mysore. Before the formation of the Madhya Bharat State, rules

and regulations for regulating markets were also in force in eight of the States which have now merged in Madhya Bharat. The Government of Madhya Bharat have now enacted and enforced a composite Act in their State. With the separation

of Andhra, the Madras Act continues to be applied to markets in that State.

(b) Number of regulated markets: The progress made in extending the application of the Agricultural Produce (Markets) Acts in various States is indicated in the table below.—

Number of Regulated Markets in various States.

State	1940	1945	1950	1951	1952	1953
Bombay	7	15	62	75	83	83
Hyderabad	22	28	54	67	70	73
Madras (composite State)	6	6	47	28	28	27
Madhya Pradesh	34	43	46	46	49	51
Madhya Bharat	—	—	46	46	46	47
Mysore	—	—	3	4	7	8
Punjab	—	43	52	63	63	60
Pepsu	—	—	39	39	39	39
Total	69	135	329	368	385	403

It will be observed that the regulation of markets gathered a new momentum during the period of the First Five Year Plan, though the progress during the five years from 1945 to 1950 also appears to have been quite significant in Bombay, Hyderabad and Madras States.

3. *Benefit of Regulation.*—The survey conducted by the Directorate of Marketing and Inspection reveals that though the results of this beneficial measure have not been so spectacular and impressive, it has no doubt conferred many socio-economic advantages on the producers in the areas where the Acts have been enforced. As a piece of economic legislation the Markets Acts may be considered extremely useful. As a rough estimate over one thousand lakh maunds valued at

about 250 crores of rupees were marketed through the regulated markets in 1953. There has been beyond doubt a visible reduction in marketing charges in markets managed by the market committees constituted under the various Acts. With the reduction in market charges and some rationalisation of market practices the marketing efficiency has no doubt improved and the monetary gains to the producers have therefore been obviously large. Many of the regulated markets have established market yards with provision of facilities for parking of carts, arrangement for drinking water, cattlesheds, sheds for cooking, library etc. In several markets, marketing services such as storage facilities, grading and issue of market bulletins have been introduced. The regulated markets

constitute the most reliable source for market statistics and thus render a valuable service, particularly in a period of planning.

Apart from the benefits that have accrued to the producers, the working of the regulated markets has brought a new sense of obligation to the business community, though at a slow pace. The market functionaries who were opposed to any regulation have realised that they cannot have all their way in the marketing of agricultural produce and have gradually submitted to the discipline imposed on them by the State legislation in this regard. Wherever this realisation has been quick, the entire atmosphere in which marketing takes place has considerably improved. The mutual distrust between the seller and the buyer is fast disappearing. In short, the regulated markets have exercised a very wholesome influence on the marketing structure and have generally raised the tone of the marketing system in their areas.

4. *Future development.* The preceding paragraphs dealing with the economic and psychological merits of market regulation should not lead one to the belief that all that is necessary for stepping up marketing efficiency has been achieved. The encouraging results obtained in some areas should lead to intensification of efforts in pursuing this development programme with greater vigour in other areas. As will be observed from the earlier paragraphs, market legislation has been introduced in only nine out of twenty-eight States. In States where the Acts are in force, while many important markets have been regulated, the small markets and

village sales still remain unregulated. As regards the coverage of the major agricultural commodities brought under regulation, a lot still remains to be done. Except in Bombay State, regulation of markets for cattle, fruits and vegetables has not yet been undertaken. Thus at present regulation extends only to a small fraction of the total agricultural production and a large sector still remains outside the regulatory orbit. In these States, the Acts require to be extended to new markets and additional commodities.

The studies so far made have also indicated the scope and further possibilities, which exist in the various States which have passed and enforced the legislation, for increasing the utility of the Acts by better and stricter enforcement of provisions, by the respective Governments through more efficient committees. Though there is some improvement in the rationalisation of marketing practices, much remains to be done particularly in respect of methods of sale which in most of the markets still continue to be defective. The 'hata' system (bid under the cover) still prevails in some markets. The 'Fardi' system prevalent in Hyderabad markets has been the cause for the demand of Kadta, or reduction in price and the reputation of the regulated markets has been affected due to the continuance of this practice. Such systems require to be improved or replaced.

Some of the old regulated markets which have established themselves and have gone ahead with improvements can with no difficulty introduce grading of farm produce before sale and trading

on the basis of standard contracts. The warehousing activity which provides cheap agricultural credit can also be undertaken by some of the market committees.

The financial position of most of the market committees prevents them from undertaking constructive works and from providing minimum amenities within the market yards. In this direction, the Hyderabad State has built up a Central fund by pooling the contributions (40% of the total income of a Committee) made by various committees. The fund is utilised for maintaining supervisory and audit staff and the surplus is utilised for ameliorative works. To build up this fund the Government of Hyderabad introduced the system of collecting market fees on *ad valorem* basis at annas four per cent in all the markets. The same principle can be adopted by other States and funds collected for undertaking development work in the regulated markets.

The market committees are the principal organisations through which the provisions in the State Acts are translated into practice and objectives laid down achieved. Much therefore depends on the efficiency and the integrity of the committees. The markets which are efficiently managed have made rapid progress. The constitution of the committees particularly the first committees therefore deserves special attention.

GLOSSARY OF TERM USED

'Fardi' system—the auction according to this system is done in the absence of the commodity and the day's arrivals are offered to the highest bidder.

'Kadta'—An allowance or reduction in price due to quality.

Letters to the Editor.

THRESHING OF PADDY WITH TRACTOR.

The Madras Agricultural Journal, Vol. XLII, No. 2, February 1955.

Excepting a few, almost all the ryots may wonder when they are informed that paddy sheaves can be very economically threshed after the first hand-threshing, by means of rubber tyred tractor. This was largely demonstrated in the farm of Shri S. Ramalingasamy, M.A., B.L., at Papanad, Tanjore District.

The sheaves of the produce of half an acre were spread round to a radius of 14 feet leaving an empty space at the centre to a diameter of 8 feet.

The tractor used was a W. 6. McCormick Deering which was run over the sheaves in the fourth gear at a speed of 5-3/8 miles per hour. The action of the tractor wheels in motion seems to be that the two front wheels by their quick turning action agitate the sheaves in front while the two rear wheels push the sheaves slightly behind due to their centrifugal force and at the same time rub the sheaves against the ground due to which action the grains shed down from the ears. The tractor took only ten minutes for the threshing operation during which the entire grains and chaff too had got separated from the ears.

It has been observed that working the tractor at the fourth gear at a speed of 5-3/8 miles per hour, gives good results, since the stirring and rubbing action by the wheel movement would be much better at this speed than when the tractor moves at less speed.

The shedding of the grains was cent percent even when the sheaves had been spread to a thickness of 9 inches. The only necessary factor for achieving this good result is to take up the sheaves twice during the tractor operation by one or two men with the aid of a two pronged stick.

Ten minutes are required before and after the tractor threshing for spreading the sheaves and removing them respectively. Thus only half an hour was required for completing the entire operation, right from spreading the sheaves to the collection of grains from the floor. Since more time is required for sweeping the grains from the floor if two floors can be had side by side, the threshing operation can go on uninterrupted without wastage of time as the tractor can thresh in the second floor while, the first one is being swept

and cleaned. The produce of one acre can be threshed in an hour and in a day of 8 hours eight acre produce can be easily handled. When there are two threshing floors, produce of 16 acres can be handled in a day of 8 hours. This turnover can be even doubled if the tractor is worked in the night with its lights on. This would mean really a boon to Tanjore mirasdars, who often find it very difficult to complete the second threshing operation of Kuruvai paddy with cattle as either rains interfere during October-November or the Thaladi ploughing collides with the threshing work. Kuruvai straw cannot be stacked for a long time unlike the Samba varieties, as it gets spoiled in the rains, and hence it is necessary to thresh the sheaves soon after the hand threshing which can be achieved only by the tractor.

In the case of cattle threshing, the sheaves are spread at intervals, one pile over the other as the cattle go round and round. Therefore, the final collection of straw also is done in stages and there is always the chance of throwing away some of the grains along with the straw as the shed grains are embeded between layers of straw without all of them going to the bottom as in the case of Tractor threshing, for which the entire sheaves are spread once only at the beginning and all the grains are forced to the very bottom.

The following is the comparative statement showing the time taken, percentage of shedding of grains and chaff and cost of threshing.

NOTHING TO BEAT SESBANIA

More Farmers are taking to Sesbania Growing as a Cheap but Efficient Method of Manuring Crops

By P. Y. CHINTAMANI.

Indian Farming, Vol. IV, No. 7, October, 1954

Since the last two years, farmers in Madras State have been sowing sesbania (*Sesbania speciosa*) as a green manure on an unprecedented scale.

For doing so, they have a good reason. Sesbania has been giving high per-acre yields of the green matter averaging from 30,000 Lb. to 50,000 Lb. The highest yield was 86,400 Lb. per acre recorded at the Agricultural Research Station at Samalkota. It is claimed that 10 Lb of seed sown in an acre

gives enough green manure for six acres of paddy land.

During 1952-53, when the south-west monsoon was a failure and a severe drought prevailed, paddy lands in Peddapuram (East Godavari) were scorched, but the sesbania plants raised on the field bunds showed no effect of the drought. Experience elsewhere has also been similar. Sesbania is not only drought-resistant, but also has another happy trait. It withstands prolonged submersion

Continuation from page 28.

	Tractor threshing.		Cattle.		Remarks.
	Single threshing floor.	Double threshing floor.	Threshing.	Remarks.	
1. Quantity threshed in a day of 8 hrs.	Produce of 8 acres.	Produce of 16 acres.	Produce of 4 acres.	Variety of paddy used was Adt. 20.	
2. Percentage of shedding of grains.	100%	100%	95%		
3. Percentage of shedding of chaff.	99%	99%	75%		
4. Cost of threshing one acre produce.	Rs. 2-4-0.	Rs. 1-2-0	Rs. 1-8-0		

From this comparative statement it would be clear that the cost of threshing by Tractor on double threshing floor is the cheapest and the time taken by Tractor is only one fourth of what is taken by cattle. This saving in time is a very great factor in Tanjore District where the number of sunny days during

the Kuruvai harvest season is few and the cattle labour is also scarce. And the private tractor owners find more work for their machines whose idle period too is reduced to the minimum.

T. P. Shanmuganainar,
Agricultural Engineering
Supervisor.

Sesbania first came to Madras State in 1935-36. The small quantity of seed received from the Economic Botanist, Kew Garden, London, became the nucleus for rapid multiplication for trial on the State's research stations.

SLOW IN EARLY STAGES. Sesbania has a slow growth in the early stages and after a month it grows faster if moisture is available in the soil. Because of its slow growth in the early stages, it gives smaller quantity of green leaf if cut at this stage. It yields well, however, if a longer interval is given. At the Agricultural Research Station at Maruteru, Sesbania gave as much as 25,000 Lb. of green stuff in 80 days' time.

The crop is neither well-relished nor grazed by cattle as they do on *dhaincha*. Sesbania rots quicker than *dhaincha*. It comes up better in alkaline soils than *dhaincha*. Under such conditions, sesbania gave 11,000 Lb. of green manure as against 9,000 Lb. of *dhaincha* at Maruteru. As an off-season crop, it proved superior to indigo and wild indigo.

Another point in favour of sesbania has been its low cost of production. At the Maruteru Station, the cost of production of 1,000 Lb. of green leaves worked out to Rs. 0-2-5 to 0-3-6 for sesbania, while it was Rs. 1-0-4 to 1-7-0 for sannhemp, Rs. 0-15-9 to 1-0-6 for *dhaincha* and Rs. 0-4-7 to 0-4-9 for *pillipesara*.

Farmers are very much impressed with the performance of sesbania and, as advocated by the Agricultural Department, are raising the plants on the field bunds,

Since the seed coat of sesbania is rather hard, germinations becomes rather slow, taking five to six days for the process. However, pounding the seed after mixing it with some sand is supposed to facilitate early germination. I found that if the seed is tied in a cloth and immersed for five minutes in water brought to the boiling temperature and removed from the fire, then dried over-night and sown the next morning, the seed not only germinates by the third day but also gives a good germination percentage.

PLANTING SEEDLINGS

From the experience that I have had of sesbania in Peddapuram, I can say that not only the age of seedlings but also their size at planting time has a bearing on the growth and production of seed. By sowing the nursery thin and planting two month old seedlings of about a foot in height best results are obtained.

Sesbania seedlings planted along with paddy do come up very well, giving profuse branching and good podding. For this purpose Sesbania nurseries should precede paddy nurseries by two to three weeks.

When three-month old and about three feet high seedlings were topped and planted, a few did not get established, while the rest branched profusely and gave a good yield of seed. This shows that topping the seedlings after they are a foot or more taller than the paddy crop may be tried with success.

The viability of the seed seems to be very good. In course of time it is likely that this crop becomes a self-sown crop.

Sesbania, excepting for its slow growth in the early stages, has many advantages over other green manures. The following are some of the important recommendations being made by the Madras Agricultural Department.

In single crop wet lands, sow 10 to 15 lb. of seed a week or ten days before the harvest of paddy. This gives sufficient green leaf by July, if there are good summer showers, to manure five to six acres from one acre of the crop. Six to seven-week old seedlings also can be planted along field bunds just a week before paddy harvest. These will establish themselves and come up well with the summer showers.

For double crop wet lands, raise thin nurseries by sowing 1/4 lb. in one cent of land, and plant the seedlings two to four inches apart in the puddle along with bunds at the time of planting paddy. By four months the plants will grow up to 10 ft. and give four to six cartloads of green matter per acre. This can be puddled immediately, or if there is sufficient gap between the first and second crops, the plants can be cut, dried (without decomposing) and applied to the second crop. A few plants may be left over for the collection of seeds.

Recent experiences at the Agricultural Research Station, Maruteru and Anakapalle show that sesbania gives a good yield of green matter in a period of 80 days and the crop can be raised in the Deltas even where the duration between the crops is short.

BRIHAT SAMHITA OF VARAHA MIHIRA.

(Contd.)

Translated into English by
N. CHIDAMBARAM IYER, B.A., F.T.S.

Part II Chapter VIII

12. An interval of twenty cubits between trees is the best; one of sixteen is passable; and one of twelve is injurious,

13. The trees that are planted very near each other get their branches interwoven as well: as their roots and such trees get choked and do not grow well.

14. Cold winds and hot sun produce diseases in trees and the trees turn white and do not put forth new leaves; the branches become dry and the juice oozes out.

15. To cure the tree of these diseases, first scrape off or otherwise remove the parts dead from the tree with a knife; rub over the parts a mixture of Vidanga, Ghee and Mire and pour at the roots water mixed with milk.

16. If the fruits are seen to die out, then heat a mixture of Horsegram, Black gram and Mudga (kidney bean), Sesamum Seeds and Barley; after the mixture has fully cooled pour it at the roots. Then the trees will yield an increase of flowers and fruits.

17 & 18. Get two adhakas (Adhaka is two Madras Measures) of the excrement of the goat and the ram, an adhaka of

sesamum seed, half an adhaka of saktu (saktu, the flour of barley or rice fried and ground) an adhaka of water and tula (tula, one hundred palas) of cow's flesh. Form a mixture of these, keep it untouched for seven days, and if at the end of the time spreading creepers, plants and trees be watered with the mixture, flowers and fruits will grow in abundance.

19 & 20. Keep the seeds soaked in milk for ten days, then rubbing ghee over the hands the seeds shall be taken up in the hands and passed from hand to hand till it is covered with ghee. It shall then be rubbed over several times with cow-dung and exposed to the smoke of the flesh of the hog and the deer. It shall then be mixed with the serum of marrow (of the flesh) of the fish and the pig, and when dry it shall be sown in a well-prepared soil and watered with a mixture of milk and water. When it grows, it will grow with flowers.

(To be continued.)

NEWS AND NOTES. May 1955.

1. The Government of India have nominated Shri G. Y. Bhagwe, Deputy Chief Controller of Imports & Exports, Cochin as member Indian Central Arecanut Committee in place of Shri E. C. Sanker to represent the Ministry of Commerce in this Committee.

2. *Special Technical Sub Committee.* A meeting of the Special Technical Sub-Committee consisting of the Director of Agriculture and representatives of the different areca growing States was held at 2 P.M. on 25-4-1955 in the office of the Committee at Calicut. Dr. T. G. Shriname, Director of Agriculture, Bombay, presided and the meeting considered the report of the Agricultural Officer on the survey of waste lands suited for develop-

ment of arecanut cultivation in the country.

3. *Arecanut Seedlings.* About 50,000 arecanut seedlings under one year age will be available by July 1955 from the Committee's nursery at Kunnoth, Iritty P. O., North Malabar. The seedlings will be sold at Rs. 12/8 per 100 ex-nursery site, packing and forwarding charges being extra.

Intending purchasers are requested to place their firm order with detailed despatch instructions to the undersigned on or before 15-5-1955 and the full value of the seedlings and packing and forwarding charges will have to be remitted in advance on allotment of seedlings.

Secretary,
Indian Central Arecanut
Committee, P. B. No. 14,
Kozhikode.

MARKET REPORTS

Average Weekly Prices of Arecanut during the month of April 1955.
(Price in Rupees per Maund of 82-2/7 Lbs.)

I. At SHIMOGA Market in MYSORE STATE.

Name of quality	WEEK ENDING			
	2nd	9th	16th	23th
	Rs.	Rs.	Rs.	Rs.
Pheeton	143 3	144 4	146 1	146 1
Deshawaram	141 2	141 9	144 0	144 0
Rajalu	134 9	136 10	136 10	137 7
Vanti Bette	109 7	109 7	109 14	111 8
Gorabalu	68 11	69 2	69 2	69 2

II. At BOMBAY Market in BOMBAY STATE.

Name of quality.	WEEK ENDING				
	2nd	9th	16th	23rd	30th
	Rs.	Rs.	Rs.	Rs.	Rs.
Mangalore Navi Vachar Best	110 0	111 0	115 0	118 0	
Sirsi Toanchi	225 0	250 0	237 5	250 0	
Sirsi Safed	107 8	115 0	110 0	116 8	
Ceylon Nuts	112 0	112 0	N. A.	N. A.	
Singapore nuts	108 8	108 8	105 0	118 8	

III. At CALCUTTA Market in WEST BENGAL STATE.

Name of quality	WEEK ENDING			
	7th	14th	21st	28th
	Rs.	Rs.	Rs.	Rs.
Sundried (sliced)	100 0	100 0		
Ceylon nuts	116 0	118 0		
Singapore nuts	116 0	118 0		
Penang Nuts	112 0	116 0		

IV. In TRAVANCORE—COCHIN STATE.

Name of market	Name of Quality	WEEK ENDING				
		2nd	9th	16th	23rd	30th
		Rs.	Rs.	Rs.	Rs.	Rs.
Trichur	Erasal.	176 1	176 1	176 1	176 1	
	Iylon.	176 1	176 1	176 1	176 1	
	Choor.	168 2	168 2	168 2	168 2	
Alleppey	Assorted.	90 13	95 8	95 8	95 8	
	Garbled	95 8	89 3	97 3	102 14	

V. In HINDUPUR Market in ANDHRA STATE.

Name of quality	WEEK ENDING				
	2nd	9th	16th	23rd	30th
	Rs.	Rs.	Rs.	Rs.	Rs.
Billa	152 2	144 0	140 0	138 0	
Churu	147 7	147 7	144 14	130 9	
Podi	80 9	75 7	72 0	68 9	

VI AVERAGE WEEKLY PRICES OF ARECANUT DURING THE MONTH OF MARCH 1955 IN MADRAS STATE

Name of market	Name of variety	WEEK ENDING			
		5th	12th	19th	26th
		Rs.	Rs.	Rs.	Rs.
Mangalore	Supari New	98 8	110 12	116 13	
	Supari Old		Not Quoted		
Madras	Koka		Not Quoted		
	Singapore nuts	115 3	115 3	118 8	115 3
Palghat	Colombo nuts	115 3	115 3	118 8	115 3
	Choor	N. R.	N. R.	152 4	153 1
	Choorkottai	N. R.	N. R.	N. S.	103 11
	Iylon	N. R.	N. R.	153 1	153 1
	Iylonkottai	N. R.	N. R.	95 8	98 8

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

Ports to which imported	Places from which imported							
	CEYLON		SINGAPORE		Federated Malaya States		TOTAL	
	Quantity cwts.	Value Rs.	Quantity cwts.	Value Rs.	Quantity cwts.	Value Rs.	Quantity cwts.	Value Rs.
Bombay	1,095	40,101	2,218	75,609	9,974	3,54,914	13,287	4,70,624
Culcutta	2,025	81,744	21,115	7,22,323	865	26,493	24,005	8,30,560
Madras	1,135	84,346	1,330	62,241	3,519	1,33,341	5,984	2,79,928
Total	4,255	2,06,194	24,663	8,60,173	14,358	5,14,748	43,276	15,81,112

The total imports of arecanut during the period January to March 1955 were 1,16,123 cwts valued at Rs. 44,19,819.

Statement showing quantities of arecanut exported to foreign countries from Bombay Port and their value during February and March 1955.

Destination	FEBRUARY 1955.		MARCH 1955.	
	Quantity (cwts)	Value (Rs.)	Quantity (cwts)	Value (Rs.)
Aden	—	—	11	2,675
Fiji Islands	44	3,643	3	494
Kenya	124	26,569	150	30,732
Mozambique	10	2,325	9	1,475
Nyasaland	17	3,498	41	8,905
Rhodesia North	—	—	7	1,947
Saudi Arabia	20	4,150	—	—
Singapore	—	—	18	5,806
Tanganyika	6	1,145	5	930
A. E. Sudan	2	444	4	830
Burma	2	454	—	—
Mauritius and Dependencies	1	172	—	—
Muscat Oman	—	—	4	862
Rhodesia South	4	1,276	6	1,738
Uganda	6	1,935	—	—
United Kingdom	—	—	2	779
New Zealand	—	—	2	630
Ethiopia	—	—	4	780
Total	236	45,611	266	58,583

Report on arrivals of arecanut in the different markets in India during March 1955.

Name of market.	Quantity.	Nett weight of bag.
1. Shimoga	16,635 bags	132 lbs.
2. Mangalore	39,000 cwts	
3. Sirsi	15,030 bags	140 lbs.
4. Palghat	60 bags	100 lbs.

FOREIGN MARKETS

I. Average weekly prices of arecanut in Colombo Market in Ceylon during APRIL 1955
(Price in Indian Rupees per Maund of 82-2/7 lbs.)

Name of quality.	WEEK ENDING			
	2nd	9th	16th	23rd
	Rs.	Rs.	Rs.	Rs.
<i>Whole Arecanuts.</i>				
Average quality.	16 0	16 11	16 11	
Whole No. 5.	20 6	21 2	21 2	
Whole No. 6.	17 13	18 9	18 9	
Whole No. 7.	18 0	18 6	18 6	
Vedial.	1 13	1 13	1 13	
<i>Split Arecanuts.</i>				
1st Grade				
2nd Grade				
3rd Grade				
Vettai 4 A				
Vettai 4 B				

II. Fortnightly prices of arecanut in Singapore during FEBRUARY 1955.

Name of variety: Split Bukit Batu.

Date	Price in dollars per picul.
1- 2-1955.	21.00
15- 2-1955.	22.00
31- 2-1955.	22.00

(1 picul = 133½ lbs. and 1 Malayan dollar = 1.54 Indian Rupees)

III. Malayan Import and Export of arecanut during the month of OCTOBER 1955.

During October 1954, 1,681 tons of arecanut valued at 6,03,028 Malayan dollars were imported into Malaya, of which imports from Indonesia accounted for 1,101 tons valued at 3,31,061 dollars and those from Thailand accounted for 406 tons valued at 72,991 dollars. Malaya's exports of arecanuts during the same month were as follows:—

	Quantity (tons)	Value (Malayan Dollars)
(a) to India	3,746	15,82,086
(b) to Burma	205	1,06,013
(c) to Indonesia	221	98,230

IV. Monthly prices of arecanut during the month of January and February 1955 IN INDONESIA.

Price in Rupiahs per 100 kgs.

	January.	February.
Djakarta.	375	—
Makassar	210	190

II. Fortnightly prices of arecanut in Singapore during MARCH 1955.

Name of variety: Split Bukit Batu.

Date	Price in dollars per picul.
1- 3-1955	22.00
15- 3-1955	23.00
31- 3-1955	23.00

(1 picul = 133½ lbs and 1 dollar = 1.54 Indian Rupees)

III. Malayan Import and export of arecanut during the month of November 1954.

During November 1954, 1,681 tons of arecanut valued at 4,83,551 Malayan dollars were imported into Malaya of which imports from Indonesia accounted for 1,155 tons valued at 3,33,519 dollars and those from Thailand accounted for 479 tons valued at 85,037 dollars. Malaya's exports of arecanuts during the same month were as follows:—

	Quantity (tons)	Value (Malayan dollars)
(a) to India	1149	4,69,090
(b) to Burma	168	80,571
(c) to Indo-China	324	2,16,894

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SECRETARY.
INDIAN CENTRAL ARECANUT COMMITTEE,
P. B. No. 14, KOZHICODE—1.



ARECANUT CROP IN INDIAN UNION

By Sri. K. Kunhikannan Nambiar, B. Sc. (ag.)

Secretary, Indian Central Arecanut Committee, Calicut.

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