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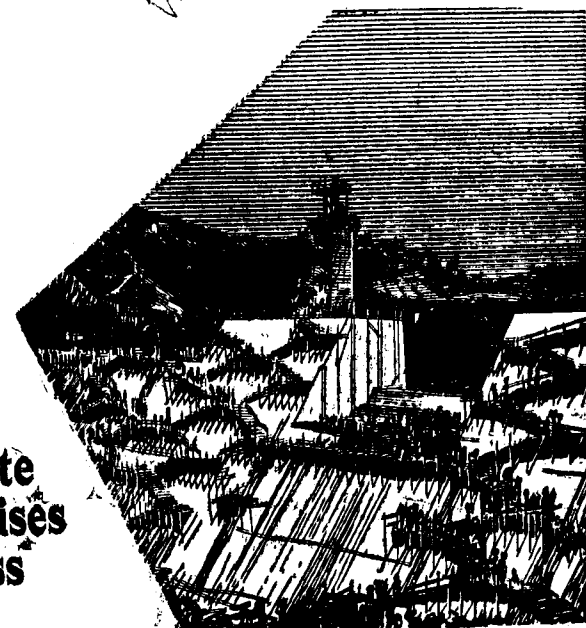
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The Madras Agricultural Journal

Vol. XLVIII

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Editorial

108

Welcome to Queen Elizabeth II: The royal visit of Queen Elizabeth and Duke of Edinburgh is a momentous one; the distinguished guests to our country were given an unprecedented welcome, unique both in magnitude and warmth. It was during the reign of the Queen's father that our country attained independence and it is with special attachment we have received the Queen. Further, our relations with the United Kingdom are part of our own history for the last 200 years or so and the British impact on India has been an abiding one. Britain and India, now as Commonwealth partners are striving for world peace and for the improvement of the conditions of the human life in the world. The Queen's visit will contribute much towards the noble cause to which we are committed.

World Seed Year: The year 1961 is designated as the "World Seed Year" by the Food & Agriculture Organisation. This is as an integral part of a proposed campaign of Freedom from Hunger. The theme of this world wide campaign, to be conducted in Co-operation with national and international agencies and non-governmental organisations is for the use of high quality seeds of better varieties. A good programme of seed selection and production is a powerful stimulant to agricultural development. Good seed benefits individual farmers directly through higher and more reliable yields. It is true that good seeds poorly cultivated are worthless; it is equally true, that once a farmer has been convinced that he should invest in the purchase of high quality seed, he is likely to do his very best to make the most of the opportunity. Hence a successful campaign for increased use of better seed could also lead to a more progressive approach to the whole problem of cultivation.

Plant breeders have been constantly striving to get improved varieties of crop plants with high yields and good quality. These new strains or varieties account in a large measure for the increase in agricultural productivity. The multiplication and dissemination of pure seed for use by the cultivator, the maintenance of seed quality,

seed certification, seed legislation and periodic evaluation of varieties are the long range scientific approach next to breeding. In the World Seed Campaign importance has been given for exploration, survey and collection of seeds from different regions of the world and to have free exchange of seed material for maintaining gene-banks for experimental purposes and for direct utilization wherever possible. A country can benefit from the advances made elsewhere through efforts of plant introduction and acclimatization. The World Seed Campaign provides opportunity for improving and overhauling the complex structure of research, selection, multiplication, certification and marketing through which seeds reach the farmer for improved crop yields.

Optimum time of sowing cotton in the
Lower Bhavani Project Area

by

S. KAMALANATHAN and C. K. RAMACHANDRAN.



Introduction: The Lower Bhavani Project covers an area of 2·07 lakh acres of land situated in the taluks of Gobichettipalayam, Bhavani, Erode and Dharapuram in Coimbatore District and a portion of Karur taluk in Tiruchirapalli district. Before the advent of the Project, a major portion of the tract was grown with inferior varieties of cotton like Nadam and Bourbon along with other dry crops. Under the project, the ryots were allowed to cultivate half their holdings with Cambodia cotton. Thus Cambodia cotton came to be cultivated under irrigation in an area of about one lakh of acres every year. This sudden switch over from rain-grown cotton to irrigated Cambodia under the project conditions necessitated information on the optimum time of sowing cotton in the Lower Bhavani Project Area.

Material and methods: Experiments were conducted at the Agricultural Research Station, Bhavanisagar, for three consecutive seasons commencing from 1955-'56, to assess the optimum time of sowing MCU. 1—a strain of Cambodia cotton—in the Lower Bhavani Project Area. MCU. 1 was chosen as it is the strain extensively cultivated in the Winter Cambodia Tract where cotton season nearly coincides with that under the project conditions. The experiments were randomised and replicated and included three dates of sowing at fortnightly intervals viz., 10th September, 25th September and 10th October.

Results and discussion: The mean data on the final yield of kapas, ginning outturn and the extra profit realised per acre on account of extra lint yield obtained are presented in Table I below:

TABLE I.
(Mean of three seasons.)

S. No.	Date of sowing	Yield of kapas		Ginning percentage	Lint yield		Extra profit per acre (Rs.)
		lb. per acre	% increase over 10th October		lb. per acre	Increase over 10th October sown crop (lb.)	
1.	10th September	772	130	40·1	310	+79	39·50
2.	25th September	698	118	39·8	278	+47	23·50
3.	10th October	594	100	38·9	231	...	...

Uniformly higher values were obtained for both yield and ginning outturn. The early September sown crop (i. e. on the 10th September) has given the highest kapas yield among the three dates of sowing. As the sowing was delayed, the yield of kapas declined gradually from 772 lb. of kapas per acre in the crop sown on 10th September to 594 lb. of kapas per acre in the crop sown a month later. Similarly, the ginning outturn also showed a downward trend from 40.1 per cent in the 10th September sown crop to 38.9 per cent in the crop sown in October. The lint yield also varied from 310 lb. to 231 lb. per acre depending upon the dates of sowing. The early sown crop on account of its higher yielding potentiality contributed towards a higher monetary return. The crop sown on 10th September, accordingly, gave an estimated extra income of Rs. 39.50 per acre over the 10th October sown crop, while the crop sown on 25th September recorded an estimated extra income of Rs. 23.50 only.

The fibre properties and the duration of the crop raised on the different dates of sowing are given in Table II below :

TABLE II.

S. No.	Date of sowing	Mean fibre length (inch)	Fibre Weight (millionth of oz. per inch.)	Maturity percentage (mature + half mature)	Pressley strength index (lb. per mgm.)	Total crop period (days)	Duration of harvest (days)
1.	10th September	0.96	0.149	77	7.41	205	70
2.	25th September	0.92	0.144	79	7.41	191	66
3.	10th October	0.88	0.143	77	7.47	174	59

A steady fall in fibre length was noted with delay in the sowing season. This has an important economic value as the cost of lint is adjudged mainly on the basis of staple length.

Date of Sowing is one of the principal factors that determine the yield of a crop that contributes to the monetary return. Among the various measures advocated to improve crop yields, sowing the crop at the optimum time is the best and also the easiest as it does not involve any extra cost, as in case of other improvements like manuring, inter culture, plant protection etc. Experiments on this important aspect are particularly necessary in the case of crop introductions in new area.

Christidis and Harrison (1955) while reviewing the experiments on the time of sowing cotton conducted in the various cotton growing regions of the world have stated that early sowing increases the boll weight, ginning percent and improves the lint quality. The results of the experiments on the time of sowing MCU. 1 cotton in the Lower Bhavani Project Area have indicated that early sowings are beneficial on account of higher kapas yield and better ginning outturn resulting in increased lint yield and also possess longer staple. The increased yield in the early sown crop is due to the longer period of crop development which has the advantage of more efficient setting of bolls. Dastur (1960) recommends growing of cotton in such a manner that it meets with optimum external conditions for vegetative as well as for the reproductive development. The longer crop period of 205 days in the early September sown crop as against 174 days in the crop sown a month later in October is responsible for higher yields, more fibre length and better ginning outturn. The fall in length in late sowings is associated with reduction in crop period. Since the quality and valuation of a cotton is primarily based on its staple, the reduction in mean fibre length noted in the late sown crop is of considerable practical consequence.

Summary and conclusion : The experiments conducted at Bhavani-sagar to find out the optimum time of sowing MCU. 1 cotton in the Lower Bhavani Project Area showed that early sowing is beneficial over late sowings. The early sown crop gave more yield, higher ginning outturn and longer lint compared to the late sown crop. Since yield, ginning outturn and staple length are the primary factors for the grower, trader and the consumer, the need for sowing cotton early in the project area should not be lost sight of.

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Notes on the Biology and Habits of the Red Tree Ant, *Oecophylla smaragdina* (Fabricius)

by

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Agricultural College and Research Institute, Coimbatore.

Introduction: The spinning, weaver or the red tree ant-*Oecophylla smaragdina* (Fabricius) is a familiar ant occurring in mango and other trees in the neighbourhood of houses. On account of its peculiarities a large amount of literature on its activities and habits has been published. Yet, its importance in agriculture, life history and habits have not been fully investigated. Therefore observations made on the ant in this region are given hereunder.

The nesting and food habits were elaborated by the early workers like Wroughton (1892—1893) and the spinning capacity by Aitken, (1889), Green (1903) and Dofflein (1905). Further work on its behavioural patterns have been summarised by Morley (1953).

Nesting: The ant builds its nest in trees especially mango. The leaves are drawn together by the concerted action of number of individuals standing on the edges and pulling in one direction. Some ants bring the larvae and pass them from one to the other like a shuttle so that the silk produced by them may be drawn into long threads for binding together the leaves. This kind of using the larvae as tools is peculiar to this ant. The silk is made into a thick sheet by making many layers of it one over the other. The leaves are connected together by the edges and the interior is divided into a number of chambers of about 10 mm in width. The entrance to the nests are usually found on the upper surface. The nests vary in size from 3 to 6 inches and are usually globular.

Organisation in the nest: There is only one queen in the nest and a number of soldiers and two different kinds of workers. The eggs, larvae and pupae are housed in different places slightly separated from each other in the same chamber. The nest does not contain any stored food material but occasionally some coccids and aphids are kept in the nest or in the byres.

The immature stages of the ant are attended to by the workers and the soldiers do not take any part in it. In the nests kept in the laboratory the grooming was done not only by the

members of the colony but also by the members of other colonies on the tree. However ants from other trees were antagonistic and were killing and eating away the larvae.

The larvae do not produce silk unless they have to build the nest. In the laboratory the larvae did not produce any silk but developed normally.

Life History: The elongate white eggs were covered with mucilage and was attended to by the workers. The egg period lasted from 4 to 8 days with an average of 6.2 days. The larvae were nude except for small hairs on the head and thoracic region. It passed through three instars which lasted 3 to 5, 5 to 8, and 2 to 4 days with averages of 4.1, 6.5 and 3 days. The pupa was also nude and was stored in any place. Pupal period lasted from 5 to 7 days with an average of 6.1 days. The life cycle thus lasted 26.1 days.

The callows which emerged were pale white and turned to yellow after one day and red after two days. The callows were also active from the time of their emergence from the pupae and went out foraging with the others.

Food and other habits: The ant is mainly carnivorous and feeds on live insects like flies, moths, beetles and others which are caught by the coordinated action of number of individuals. The insects are killed only by stretching them in all directions and are then carried to the nest. Caterpillars without hairs are also relished and are eaten.

The ant is vicious and bites all intruders. It bites by the mandibles as it has no sting and squirts formic acid from its anal region. The acid irritates bigger animals but paralyses smaller ones.

It gets on the alert at the approach of anyone and stands erect in an alarm attitude. It causes a disturbance by running about or striking the sides of the nest with its abdomen. This is meant as a means of communication to the others, at which all of them run wildly and attack or fall upon the intruder. The bite is not let loose even when they are killed in their attempt to kill the intruder. In the flurry that results as a result of such alarm and hasty action, the ants bite one another also.

The success of the ant depends on its poisonous bite, active habits, communication and coordination in action and ability to withstand weather conditions to a certain extent. It runs easily

and forages quickly over large areas on the same tree or on the ground and some adjacent plants also. There is no regular track but when necessary as in the case of building a bridge, taking food home or attacking enemies, they call together others by sound-signs and attitude-signs.

The ant feeds also on the honeydew from many coccids and aphids and some of them are maintained in their nests or in byres. The mango aphid, *Toxoptera odinae* and the coccid *Rastrococcus iceryoides* have commonly been found in the nests of the ant in this region. These are only temporary attendance and not a completely dependent myrmicophilous condition as is obtained in some European species like *Acanthomyops flavus*. There is not the regular transportation of the insects also attributed to the ant by some writers.

It is usual to find the tree on which this ant lives being free from other ants and also many pests. But the stingless tree ants belonging to the subfamily Dolichoderinae live unobtrusively on the same tree and are tolerated by the red tree ant.

Inquilines and Parasites: In spite of its ferocious nature many inquilines have been found in the nests or in the trails of this ant. Some spiders and assassin bugs have been found to mimic the ant and go along with them on the trees. In Coimbatore two spiders which mimic the ant have been taken from the nests.

No parasites have so far been noted on the ant in this region.

Economic Status: On account of its vicious bite, the red tree ant has been considered a nuisance if not an injurious one on the important fruit trees like mango in South India (Ramakrishna Ayyar 1940). It has also been credited with harbouring injurious insects like coccids and aphids and transporting or protecting them from their natural enemies. In recent years it has been found that such transportation and protection do not exist except in some cases where the charge is totally dependent on the ant concerned. Therefore direct or indirect injury to plants can only be limited.

On the other hand the ant being a predacious one, it is stated that it eliminates many injurious forms of insects like caterpillars, beetles and the like. The case of introducing the ant into Ceylon with the object of protecting coffee plantations from the ravages

of the scale, *Lecanium viride* can be cited here. The ants are said to have been very useful in the destruction of the pest but had interfered with the working of people in the gardens and had to be eliminated.

Control of the ant: When it becomes necessary to control the ant, it can easily be done by pulling down the conspicuous nests and destroying the queens in them. The ant has been found to be susceptible to many of the hydrocarbons and BHC dust (Thirumal Rao *et al* 1953).

Acknowledgments: The writer is grateful to the University of Madras for kindly according permission for publishing the material which formed part of a thesis for the M. Sc. degree. Thanks are due to Sri M. Basheer, Entomologist and Associate Professor of Entomology, for affording the facilities for work and acting as supervisor for the study.

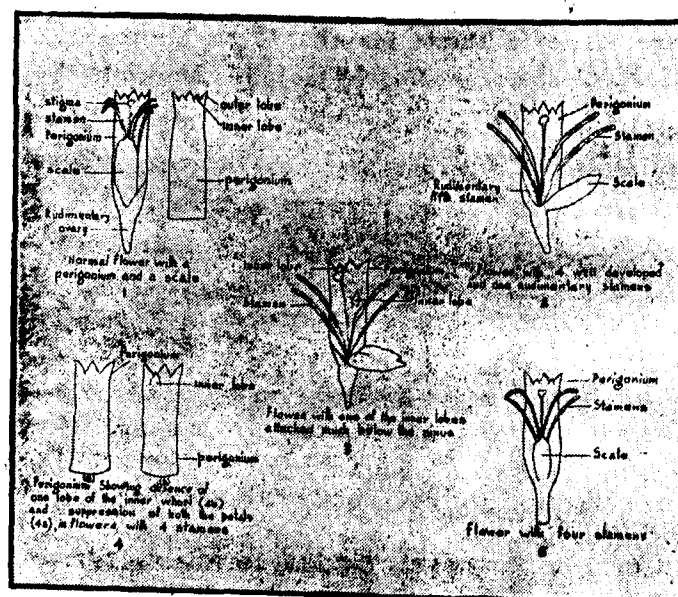
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Research Notes

Floral Abnormalities in the Culinary Banana
Variety *Monthan*.

Normally the flowers of *Musa* are trimerous wherein all parts are not fully developed. The outer perianth generally termed perigonium is petaloid, prominently two-keeled and five-lobed. The outer three lobes constitute the sepals and the inner two represent two of the petals. The third petal is present as a semi-transparent boat-shaped structure opposite to the perigonium, termed scale. Stamens are twice the number of sepals or petals but only five are generally developed. The ovary is inferior, 3-celled with a stiff, erect, terete, whitish style (Fig. 1.).



On casual observation of a material collected at Madurai, as many as nine different floral abnormalities were encountered in the staminate flowers of the variety *Monthan*.

Jacob (1952) has recorded the presence of only one lobe at the sinus in *Ney Poovan*, *Ney Mannan*, *Venneettu Kunnan* and other varieties. The authors observed a similar instance where one lobe of the inner whorl was modified into a scale in addition to the normal one present, with four stamens due to the suppression of two members of the androecium. Another flower was observed to contain three scales and three stamens as a result of the modification of all the petals and the suppression of three stamens. A case similar to that recorded by Jacob (*loc cit*) in the varieties like *Myndoli* and *Kaio* was seen in a flower possessing six stamens in which one was rudimentary, with normal perianth parts.

The occurrence of one or both the inner lobes being attached very much below the sinuses on the inner surface of the perigonium has been recorded by Jacob in *Venneettu Kunnan*, *Chakkarakeli* and certain other varieties. The authors observed the attachment of a single lobe very much below the sinus in the case of a flower having four stamens with normal perianth parts (Fig. 3.).

The presence of five stamens of which one is rudimentary was observed in a flower (Fig. 2.). A few flowers were found to possess normal floral parts with the suppression of one petal in the perigonium and two stamens (Fig. 4b.). The complete absence of the two inner lobes of the perigonium with the suppression of two or three stamens was also observed in some cases (Fig. 4a.). A single flower was found to contain normal perianth parts with only four stamens due to the suppression of the other two stamens (Fig. 5.).

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Palmyrah Palm Leaf as Green Leaf Manure to Rice Crop

In Tiruchendur and Srivaikuntam taluks of Tirunelveli district, applying of palmyrah leaves as manure to the paddy fields is practiced. It may be that the easy availability of palmyrah leaves in large quantities coupled with the scarcity of other trees in the vicinity is the stimulating cause for the prevalence of this practice in these localities. Palmyrah leaf is believed to be a good corrective to the soil salinity and alkalinity to a large measure. In the Coastal areas of Tirunelveli and Ramanathapuram districts, where these trees are common, this is used for reclamation of saline and alkaline lands. The usual rate of application of this leaf is about three to four cart loads per acre. The leaves are usually torn into thin lengthwise shreds before application which will be normally four to five weeks prior to planting. This leaf takes a longer time for decomposition in the soil than what other leaves will take. Usually leaves which are small and consequently unfit for roofing, basket making, mat making and toy making purposes and the rejects in the process of making the above articles are applied to the paddy fields. The cost will not be more than seven or eight rupees per cart load.

It may be mentioned in this connection that from 1949 onwards experiment was conducted at the Rice Research Station, Ambasamudhi to find out the merits of palmyrah leaves as green leaf manure for paddy. The trial was for a period of three seasons and palmyrah leaf at 2,000 pounds was compared with no manure and Gliricidia and daincha leaf at 5,000 pounds per acre.

The grain yields per acre obtained for the different green leaves during the three seasons are presented below:

	Grain yields in pounds per acre		
	Second crop 1949—1950	First crop 1950—1951	Second crop 1950—1951
Palmyrah leaf	...	2,364	3,522
No leaf	...	2,265	3,173
Daincha leaf	...	...	3,375
Gliricidia	...	2,406	3,807
		...	3,327
			...

It is seen from the yields that palmyrah leaf has given increased yields over the "no leaf" plots consistently in all the three seasons. Although palmyrah leaf was applied at the rate of 2,000 pounds as against 5,000 pounds of daincha and Gliricidia, it was found that palmyrah leaf was nearly as good as daincha or Gliricidia. From the above trials, it is seen that palmyrah leaves could be used with equal advantage as green manure for paddy.

The valuable help and guidance so kindly rendered by Sri A. Abdul Samad, B. A., B. Sc., (Ag.) Paddy Specialist, Coimbatore in the preparation of this paper is gratefully acknowledged.

R. H. KRISHNAN,
J. CHANDRAMOHAN.

Kudiraivali, The Barnyard Millet (*Echinochloa frumentacea* Link.) Protects the Groundnut Crop from the Red Hairy Caterpillar.

The leaf eating caterpillar popularly known as the Red hairy caterpillar is a major pest on groundnut. It feeds on the vegetative parts of the crop reducing it to bare stalks. Under congenial seasonal conditions it appears in large numbers and migrates from field to field damaging all the plants. In the Groundnut Research Station, Pollachi, in groundnut plots where kudiraivali was raised as a border crop, strangely enough, the incidence of the pest was low. It is possible that kudiraivali raised along the border of the groundnut crop acted as a sort of guard row preventing the entrance of this pest.

Kudiraivali (*Echinochloa frumentacea*, Link.) is a minor millet which grows to a height of about three feet and tillers profusely. It can be grown as a border crop all around the groundnut fields to check the migration of the Red hairy caterpillar and thus the damage due to the latter can be reduced. Such a border cropping of kudiraivali around the groundnut crop will, not only reduce the cost of insecticides that may be necessary otherwise to protect the crop from this pest, but also give a return in the shape of grain. Kudiraivali P. C. 49 is an improved strain that has been evolved at the Millets and Pulses Breeding Station, Coimbatore. It gives an acre yield of about 1,000 lb. of grain under irrigation.

Millets and Pulses Breeding
Station, Coimbatore.

S. G. AIYADURAI,
M. CHARLES RATNASWAMY.

Further Studies on the Performance of two early Strains of Ragi.

The performance of two short duration selections of Ragi maturing 80 to 85 days and their suitability to Chingleput and South Arcot districts has been reported by Sivagnanam (1960). The trial of these two short duration selections compared with the standard strain of Coimbatore namely Co. 7 which is longer in duration by 15 days was repeated for one more year i.e. during 1960 main season for confirmation of results. The data collected during the three years of trial (1958, 1959 and 1960 main seasons) were combined and subjected to statistical analysis. The details of the same are presented below:

The combination of results involved the following steps in the analysis.

1. In both grain and straw, the error variances were found to be heterogenous.
2. A weighted analysis had therefore to be carried out for both grain and straw and the varieties $\times$ seasons interaction was found to be highly significant in both cases.
3. A pooled analysis was next carried out using the significant interaction (varieties $\times$ seasons) for testing the overall varietal differences. The results are furnished below.

Pooled analysis of variance.

I. Grain.

Source	D. F.	S. S.	M. S.	'F'
Seasons	2	1401.51	700.76	
Varieties	3	436.04	145.35	} 5.34*
Interaction	6	163.35	27.23	

II. Straw.

Seasons	2	17915.49	8957.75	
Varieties	3	11266.03	3755.34	} 8.97*
Interaction	6	2511.24	418.54	

*Significant at $P=0.05$ level.

SUMMARY OF RESULTS.

Variants	Grain		Straw	
	Acre yield in lb.	Percentage of yield	Acre yield in lb.	Percentage of yield
1. E. C. 4713 ...	867	129.2	3480	217.7
2. E. C. 4728 ...	1048	156.2	2201	137.7
3. Co. 7 ...	1413	210.6	5227	327.1
4. AKP 2 ...	671	100.0	1598	100.0
Whether significant or not ...		Yes		Yes
Standard error ...	136.7	20.4	535.6	33.5
Critical difference ...	473.3	70.6	1853.3	115.9

Conclusion:

Grain	Co. 7	E. C. 4728	E. C. 4713	AKP 2
Straw	Co. 7	E. C. 4713	E. C. 4728	AKP 2

Judging from the average results of three years' trials, it may be concluded that the selection E. C. 4728 is on par with the strain Co. 7 in grain yield. It is also the best among the early selections and it has the advantage of maturing two weeks earlier than the standard strain Co. 7. The superiority of E. C. 4728 over the Anapalli strain AKP 2 was also confirmed in these trials as it has recorded an average increased yield of 56.2%. Hence this new selection has immense possibilities of spread in South Arcot and Chingleput districts, where strain AKP 2 is under cultivation on a large scale. Further improvements of E. C. 4728 is also possible by hybridising the selections with the high yielding strain Co. 7, and selecting for earliness combined with high yield.

The selection E. C. 4728 is a short duration variety maturing in 85 days. It is purple pigmented and is suitable for raising in May-June, the main season.

The help and guidance given by Sri C. K. Ramachandran, Millets and Pulses Specialist in charge and Sri A. Subramaniam, Assistant Millets Specialist are gratefully acknowledged. Thanks are due to Sri K. A. Seshu, Statistical Assistant for the help in working out the combination of results of the trials.

Agricultural College & Research
Institute, Coimbatore-3.

K. SAMATHUVAM.

REFERENCE

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A note on the Proliferation of Spikelets in *Setaria sphacelata* Stapf & Hubbard

A number of instances of proliferation of spikelets of grasses have been reported earlier by several workers. A review of literature on the subject shows that proliferation has been noted in *Arrhenantherum avenaceum* Beauv., *Festuca ovina* L., *Phleum pratense* L., *Poa alpina* L., and *Poa vivipara* L., by Arber (1934), on *Zea mays* Linn by Ganguly (1936), on *Pennisetum polystachyum* Schult by Mudaliyar and Sundararaj (1949), on *Pennisetum pedicellatum* Trin. by Mudaliyar and Rao (1951), on *Avena sativa* L., *Bromus inermis* Leyss, *Bromus purgans* L., *Festuca obtusa* Spreng, *Phleum pratense* L., and *Panicum virgatum* L., by Nielson (1941), on *Eragrostis nutans*, *Oryza sativa* var. *fatua*, *Saccolipsis interrupta* and *S. myosuroides* by Reeyat Khan (1950), on maize and teosinte (*Euchlaena mexicana* Schrad) by Reeves and Stansel (1940) and on Sorghum by Sankara Ayyar (1942). The phenomenon is known to be both heritable as well as caused by environmental factors.

Setaria sphacelata is a tall erect growing introduced fodder grass. In a field in which this grass had been raised, it was observed that a few spikes among a large number had proliferated spikelets with elongated green leafy structures arising from them. (plate 1). The extent of

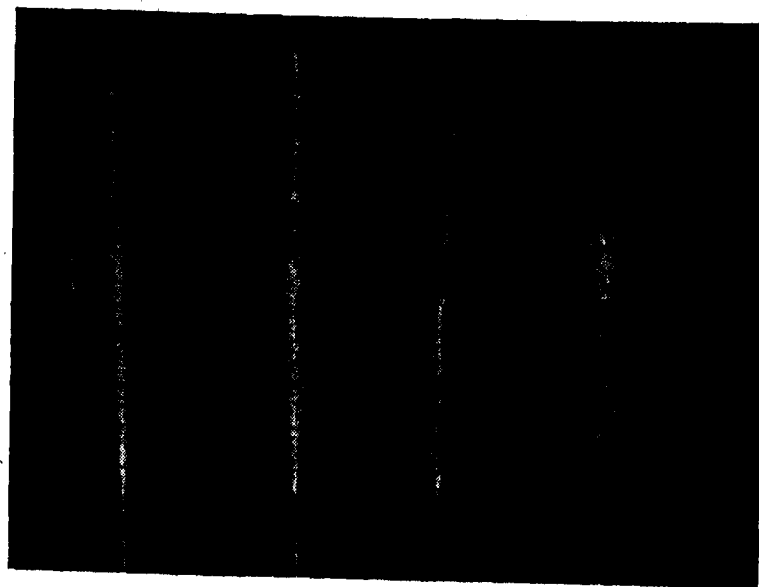


PLATE I

1. A normal inflorescence.
- 2 to 4. Abnormal inflorescences showing different degrees of proliferation.

proliferation was, however, varying, all spikelets had proliferated in a few, while in others only a few spikelets were affected. The involucre of bristles was present normally in the spikelets. Extended observation of the affected spikelets showed complete suppression of the sexual organs, total absence of any roots and the complete transformation of the external parts like glumes, palea and lemma into leaf-like structures, with considerable elongation, from twice to thrice their normal size. The proliferated parts were seen to have distinct leaflike features such as ligule and leafblade.

Several attempts have been made earlier by various research workers to establish proliferated spikelets. Sankara Ayyar (loc. cit) succeeded in establishing the proliferated spikelets of Sorghum by detaching them from the rachis of the inflorescence and planting them in soil and also by keeping them in water. On the other hand, Reeyat Khan (loc. cit) reported failure in establishing the proliferated spikelets when they were planted in soil in pots. One of the inflorescences was bent down at the region of the centre of the rachis (in the same manner as a layer is prepared but without cut) to a horizontal position, covered over with soil and weighted down and observed for signs of rooting. While no signs of growth was visible in most of the spikelets, it was observed that in the case of three spikelets, signs of vigorous growth were noted. In about 40 days from the date of the above arrangement, these three spikelets were well established, with a few long roots, 2 to 6 cm. in length (plate 2). These were carefully removed with the spike detached from it and potted individually in pots. These established well, put on vigorous growth and



PLATE II

Proliferated spikelets showing rooting.

in about 135 days came to flower. On a close examination of the spikelets from these plants, it was seen that all the spikelets were completely normal. The phenomenon of proliferation was therefore not repeated.

The plants found to show this phenomenon were from a bed in a somewhat shady corner of a field subject to slightly higher moisture level, but otherwise under normal environmental conditions. Proliferation had appeared in a few spikes in this bed previously but these could not be perpetuated by seeds. The same clumps when cut and allowed to regenerate and grow to maturity and flower, produced normal spikelets. Though the precise causes for the appearance of the phenomenon cannot be explained, the possibility of certain immediate environmental conditions, such as those described above, bringing about these temporary abnormalities cannot be ruled out. A few of the following cases of environmental conditions affecting abnormal changes in the floral regions and resulting in proliferation lend support to this view. The cases of maize and teosinte recorded by Reeves and Stansel (loc. cit) and the submerged plant *Deschampsia caespitosa* Beauv. var. *rhoeana* Grem quoted by Arber (loc. cit) are instances in point.

The author wishes to express his sincere gratitude to Dr. Daniel Sundararaj, Systematic Botanist & Associate Professor of Botany, for his useful suggestions, interest evinced during the above investigation and in writing up of this note.

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S. MADHAVA RAO.

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AGRICULTURAL JOTTINGS FOR MARCH

March is a hot summer month. Everywhere around, the fields and pastures are parched and dry. Hot winds blow now and then and the afternoon sun is too hot to bear. Farmers look north-east for the imminent arrival of the summer showers which are always welcome and set on the cycle of agricultural operations to begin for the year. The summer showers are always helpful. The summer rains generally arrive towards the last week and may be anything from 3 to 5 inches depending upon the districts. May be, there are some years when the summer showers have been disappointing in March and get pushed to April. Even so, they are always welcome, not only to bring down the temperature but also to give a break to the soil and provide some greenness around.

USE THE IRON PLOUGH:

The welcome summer showers help to soften the dry hard soil. With the advent of these rains, preparatory cultivation operations are started and with each rain ploughing is carried on and thus a good tilth is built up. The building up of good tilth is a slow process particularly in heavy clay soils and should be carefully done.

A good tilth is a must for getting good germination and good growth. For good growth of crops it is necessary that there should be good movement of water and air in the soil and this is achieved only when there is good tilth.

While on the subject of preparatory cultivation, it is good to remember the iron mould board plough. An iron plough could do the job more efficiently and economically than the country plough. The iron plough can plough the soil better than the country plough; indeed the iron plough can turn the soil and invert it so well that to obtain the same condition of tilth, ploughing will have to be done three or four times with the country plough. If you don't own an iron plough so far, it is time that you consult your Extension Officer immediately and get his advice to buy an iron plough most suited to your soil conditions.

Remember also that there are now small iron ploughs suited to your work animals and the ploughs are not at all heavy. Your animals can work them. The ploughs are also very cheap and you can get one for about Rs. 15/-.

NEW SUGARCANE VARIETIES-PLANT THEM:

March is a month when Sugarcane is planted in several districts in South India. There are a good number of improved varieties of Sugarcane to suit all conditions. For instance Co. 527 is a recently introduced variety noted for its high yield and gives 45 to 50 tons cane per acre. The

still newer varieties Co. 658 and Co. 785 may also be tried. They are found to be doing well in the South Arcot district. Your Extension Officer will be able to tell you about the best variety suited to your conditions.

PRETREAT YOUR SUGARCANE SETTS FOR HIGHER YIELDS:

Good germination is essential for higher yields from your sugarcane crop. The use of organo mercuric compounds like 'ARETAN', 'AGALBOL' etc. not only secures rapid and good germination, but also develops strong and healthy shoots leading to higher yields.

Pretreatment with 'ARETAN' also helps to prevent several fungus diseases of sugarcane including the pine apple disease which affects the seed cane after planting.

One pound of 'ARETAN' mixed with 40 gallons of water is an excellent pretreatment for sugarcane setts to be planted over an acre and costs only Re. 1.50 and the results are excellent. Your Agricultural Extension Officer will be able to tell you more about this.

BUILD UP SOIL FERTILITY WITH GREEN MANURES:

March is the month for raising green manures. Many ryots take advantage of the summer showers to sow a green manure crop after probably a light ploughing. There are quite a number of green manure crops suited to different conditions such as *Sesbania speciosa*, Daincha, Sunn hemp, Pillippasara, etc. In sowing green manures, use always a good seed rate; 40 lb. or more per acre. That gives a high yield of green manures.

It has been noted that inoculation of the seeds with a special bacterial culture suited to the green manure would help to increase the amount of nitrogen fixed by the green manure crop. The purpose of growing green manure is to increase the nitrogen and organic matter content in the soil. It is seen that the previous inoculation with the specific bacterial culture helps the green manure crop to fix higher quantities of nitrogen in the soil. A properly grown legume-inoculated green manure crop can fix 30 to 100 lb. N. per acre equivalent to 150-500 lb. of ammonium sulphate. Inoculation is the process of mixing the most appropriate bacteria with the green manure seeds prior to sowing, so that a high population of the particular strain of bacteria is built up in the soil which helps to fix more nitrogen.

Inoculation is done a day previous to sowing. The culture of bacteria to suit your green manure crop is available from the Bacteriologist, Agricultural College and Research Institute, Coimbatore-3. A flask of the culture sufficient to inoculate 30 lb. of seeds is sold at Rs. 2/- (Packing and forwarding extra).

As this is the time for green manure sowing, you are requested to try this culture. Directions for inoculation, which are simple, are supplied with the culture.

PHOSPHATE APPLICATION THROUGH GREEN MANURES:

Phosphates applied directly to the soil are likely to be fixed in the soil and its availability to the succeeding crop is very much reduced.

It has been found that green manure crops have greater ability to absorb phosphates from the soil, even those that are tightly held, and make them available to the succeeding crop when the green manure decomposes. Whenever green manure is grown, it is good to apply the super phosphate to the green manure than to the succeeding crop directly.

Phosphates through green manures improved efficiency of phosphorus intake of crop plants.

CONTROL YOUR COTTON PESTS:

Masipattam cotton is grown in the Ramanathapuram District in March. MCU. 2 is a very good strain that has become popular in that area.

The following schedule of pest control is very effective:

Seed treatment:	Pretreatment of seeds against primary infection of 'Blackarm'. 1 oz. of Agrosan G. for 20 lb. of seeds. To be dressed well on the day of sowing.
2 weeks after sowing:	Dust with BHC 10%, or DDT, or gammaxene at 10 lb. per acre against flea beetle.
6th week (square stage).	Spray Endrin at 1 oz. in 6½ gallons at 100 gallons per acre to control jassid and other minor pests.
9th week (early flowering phase)	Spray Parathion compound at 1 oz. in 12½ gallons of water against the major pests, jassids, boll worms and leaf eating caterpillars and semi-loopers.
12th week (Peak flowering and boll formation period).	Repeat to ward off the above pests. The spray fluid to be mixed with any copper fungicide.
16th week (early bursting stage).	Repeat to control the residual attack of boll worms and jassids if necessary.
20th week (Boll bursting phase).	Repeat to control Red cotton bug, aphids, mealy bugs and mite if necessary.

SUMMER SORGHUM:

March is the month for sowing summer sorghum under irrigated conditions. Co. 18 is a very popular strain giving high yields. It matures in about 85 days and phenomenal yields have been recorded. Indeed there were a few instances where farmers obtained even upto 6,000 pounds per acre. The straw is sweet and good. If you have not tried this variety before, you may get the seeds from the Agricultural Extension Officer.

COTTON IN RICE FALLOWS:

Irrigated cotton in the rice follows of the Tanjore district following the previous paddy crop is a profitable proposition. P. 216F. is a short duration variety quite suited to Tanjore soils. This crop can be sown in February-March after the harvest of the paddy crop. Seeds of this strain of cotton can be obtained from the nearest Agricultural Extension Officer. Good yields of Kapas 800 to 900 pounds per acre have been obtained at the Agricultural Research Station, Aduthurai and this can give quite a good income from lands which would otherwise remain fallow. If you have not tried this crop before, it is time that you should try it in a small area. Please make sure that you have got irrigation facilities and you can irrigate the crop whenever required.

PLANT POTATOES ALONG CONTOUR:

March is a month in the Nilgiris when farmers are busy planting potatoes. A little care in laying out ridges and furrows along the contour will go a long way to reduce soil erosion. Don't loose your soil. It is your only capital asset.

Potato blight is usually heavy in the summer irrigated crop. Spray Dithane to control this.

(From the Extension Specialist, Agricultural College and Research Institute, Coimbatore).

**Regional Conference of Upper Subordinates at Madurai
on 12th February, 1961.**

The conference started with a welcome address by Sri M. Velayudham, Deputy Secretary, Madurai. In the welcome address, he expressed the gratitude of all the members of the Association to the Government of Madras for the recent revision in their scales of pay and pleaded for weightage to seniors.

Sri Samuel Joshua Moses, Regional Field Manure Officer, presided.

Sri W. P. A. R. Chandrasekharan, M. L. A., in his inaugural address said that the public at large have now begun to realise the benefits derived by the adoption of scientific methods of agriculture and that more and more agriculturists now buy seeds of strains released by the Agricultural department and adopt cultural practices advocated by the Department. He also said that the common man has now realised the important role played by Agricultural Graduates in the improvement of agriculture.

Sri Chandrasekharan said that there should not be any difference in pay between the professional graduates in Agriculture, Veterinary science, Engineering etc. not only within one State but also from State to State.

Sri M. V. Jayaraman, President of the Association, said that seniors who have put in several years of service have not at all been benefited by the recent revision in the scale of pay.

Sri Alamgeer, Secretary, Sri S. Srinivasan, Sri K. Somasundaram and Sri Sreyankumar also spoke. Sri Govindan representing the agriculturists also spoke.

Sri G. Thulasidas, Cytogeneticist, brought out the disparity that persons with ten years' service were placed on par with fresh recruits as regards the pay revision. He appealed to the Government to give a pay of Rs. 210/- for persons with a service of 3 to 6 years and at least Rs. 220/- for persons with more than 6 years of service.

Sri Haja Sheriff proposed a vote of thanks.

In the General Body Meeting several resolutions were passed. In one resolution, the Government was requested to refix the pay of seniors granting weightage for service over the minimum pay of Rs. 200/-

In yet another resolution, the Government was requested to accept the recommendation of the pay commission and to give an additional pay of Rs. 20/- to all persons with M. Sc. (Ag.) or higher qualification.

Several delegates from Coimbatore, Trichy, Madurai, Ramnad and Tirunelveli attended the conference.

Weather Review — for January, 1961.

RAINFALL DATA (IN INCHES)

Region	Station	Total rainfall for the month	Departure from normal	Total since 1st January
North	Madras (Meenambakkam) ...	1.2	— 0.2	1.2
	Tirurkuppam* ...	1.3	+ 0.2	1.3
	Vellore ...	0.1	— 1.3	0.1
	Gudiyatham* ...	0.4	— 0.8	0.4
East Coast	Palur* ...	7.4	+ 6.5	7.4
	Tindivanam* ...	3.9	+ 3.0	3.9
	Cuddalore ...	8.6	+ 6.2	8.6
	Nagapattinam ...	9.1	+ 6.4	9.1
	Aduthurai* ...	7.5	+ 6.3	7.5
	Pattukkottai* ...	6.4	+ 4.8	6.4
Central	Salem ...	1.7	+ 1.4	1.7
	Coimbatore (A. M. O.)* ...	1.3	+ 0.8	1.3
	Coimbatore ...	2.1	+ 1.5	2.1
	Tiruchirapalli ...	2.2	+ 1.4	2.2
South	Madurai ...	1.2	+ 0.4	1.2
	Pamban ...	6.3	+ 3.8	6.3
	Koilkatti* ...	8.7	+ 7.8	8.7
	Palayamcottai ...	6.3	+ 4.6	6.3
	Ambasamudram* ...	9.2	+ 6.5	9.2
	Nagercoil* ...	2.4	+ 1.6	2.4
	Capecomorin* ...	3.9	+ 1.1	3.9
Hills	Kodaikanal ...	5.8	+ 2.6	5.8
	Coonoor* ...	6.8	+ 3.7	6.8
	Ootacamund* ...	2.1	+ 1.6	2.8
	Nanjanad* ...	1.7	+ 1.3	1.7

1. * Meteorological Stations of the Madras Agricultural Department.

In the first three days of the month of January, '61 scattered showers were received in Madras State. On 4-1-'61 the weather became dry. For three days from 5-1-'61 to 7-1-'61 localised showers were received. The weather again became dry on 8-1-'61 and continued to be so on the next day as well. On 10-1-'61 scattered and localised showers were received in a few places. Due to a depression formed in the South Bay of Bengal on 11-1-'61, a low pressure trough was noted along the Malabar Coast, which caused fairly widespread rain with heavy to very heavy falls at a number of places in Madras State. Thereafter for seven days either scattered or localised showers received throughout the State except on 14-1-'61, when the State experienced dry weather. From 19-1-'61 to the end of the month dry weather prevailed throughout the State.

2. In regard to the fluctuations of day temperatures there were no large changes. In fact, they were practically normal throughout the State. The night temperatures were above normal on (2, 3, 5, 6, 7, 10, 20 and 24)—1—1961.

3. The noteworthy rainfalls and the zonal rainfalls for the month of January, 1961 are furnished hereunder:

Noteworthy Rainfall (in inches)

S. No.	Date	Name of Place	Rainfall in inches
1.	10-1-1961	Ambasamudram	5.1
2.	11-1-1961	Cuddalore	5.1
3.	do	Palur	4.0
4.	do	Palayamkottai	5.1
5.	12-1-1961	Koilkatti	4.0
6.	16-1-1961	Pattukkottai	3.2

Zonal rainfall (in inches)

Name of the Zone	Rainfall for January 1961	Departure from normal	Remarks
North	0.8"	— 0.5	Below normal
East Coast	7.2"	+ 5.5	Far above normal
Central	1.8"	+ 1.3	"
South	5.4"	+ 3.7	Above normal
Hills	4.1"	+ 2.3	"

Agricultural Meteorology Section,
Lawley Road Post, Coimbatore-3.
13th February, 1961.

C. B. M., & K. P. N.

Departmental Notifications

Gazetted Officers—Madras Agricultural Department Postings and Transfers during the Month of February, 1961

Name and Designation	Posted or Transferred to
Sri A. Venkata Rao, Asst. in Mycology, Crop and Plant Protection Officer, Coimbatore.	(Mycology), Coimbatore.
„ V. Krishnaswami, Assistant Paddy Specialist, Thalainayar.	Retired.
„ A. Abdul Samad, Paddy Specialist, Coimbatore.	Earned leave for 30 days from 17-2-'61.
„ M. Damodara Prabhu, Lecturer in Agriculture, Coimbatore (on leave).	On expiry of leave posted as Lecturer in Agriculture, Agricultural College and Research Institute, Coimbatore.
„ G. Venkataramana, Lecturer in Agriculture, Coimbatore.	Survey Officer, Coimbatore.

Upper Subordinates—Agricultural Department Postings and Transfers during the Month of February, 1961

Name and Designation	Transfer and Postings
Sri P. Narayanan, Agricultural Demonstrator, Thakkali.	Marketing Asst. Nagercoil.
„ R. Kunchithapadam, Garden Overseer, Raj Bhavan, Madras.	Alloted to Coimbatore Division.
„ C. Narayana Kurup, Horticultural, Devpt. Asst. Coimbatore	Garden Overseer, Raj Bhavan, Madras.
„ B. Gopalakrishnan, on completion of Training.	Marketing Asst. Trichy.
„ M. M. Padmanabha Nambiar, Marketing Asst. Nagercoil.	Agricultural Demonstrator, Thakkali.
„ T. P. Gopalaswamy, (on completion of Training).	Marketing Asst. Vellore.

On Completion of Soil Conservation Training.

Sri H. Balasubramaniam	Soil Conservation Asst. Vellore.
„ N. Bhagavathiappan	„ „ „ Kodaikkanal.
„ P. Shanmugam	„ „ „ Panrutti.
„ G. Balakrishna Pillai	„ „ „ „

DISTRICTS
SOUTH ARCOT, NORTH ARCOT
COIMBATORE
RAMANATHAPURAM
TIRUNELVELI

CROPS
GROUNDNUT, GINGELLY
COTTON
&
TOBACCO



Review of Market conditions of Commercial crops in the notified areas in the Madras State for the month of January, 1961.

Cotton:

COIMBATORE DISTRICT: *Season:* The dry weather continued during the month under report. Tiruppur received a rainfall of 36.77 MMS. The rains were reported to be insufficient for the growth of dry cotton crop.

Arrivals and Transactions: **Kapas:** The kapas market started with an opening balance of 2600 quintals of cambodia and 1029 quintals of Karunganni kapas in Tiruppur market area. The total arrivals into Tiruppur during the month were 20615 quintals of cambodia kapas. The disposals during the month were 17770 quintals of cambodia and at the end of the month the market closed with a balance of 5445 quintals of cambodia and 14 quintals of Karunganni kapas.

Lint: The lint market started with an opening balance of 9761 quintals of Cambodia lint in Tiruppur market area. The total arrivals into Tiruppur during the month were 34409 quintals of Cambodia and 185 quintals of Karunganni lint which included 1879 quintals of Cambodia and 185 quintals of Karunganni lint locally ginned. Despatches from Tiruppur were 20752 quintals of Cambodia and 185 quintals of Karunganni lint. At the end of the month the cotton market left with a balance of 23418 quintals of Cambodia lint.

Prices: During the month under report, the cotton market was steady. The prices for cotton kapas and lint are furnished hereunder:

Lint:

Cambodia Superior quality
Cambodia Average quality

Prices in Rs./n.P. per quintal

334-62

243-80 to 251-00

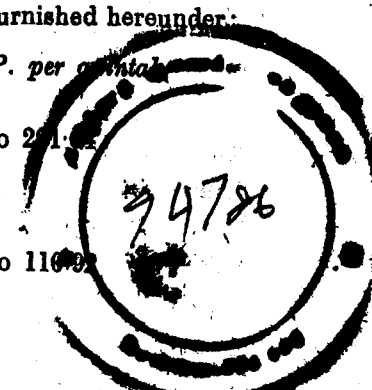
Kapas:

Cambodia Superior quality
Cambodia Average quality

129-13

97-63 to 110-00

J-211, N13
N61-48.2



RAMANATHAPURAM DISTRICT: *Season*: Fairly good rains were received during the middle of the month throughout the district and the same was reported to be beneficial to the standing cotton crop.

Arrivals and Transactions: There was practically no arrivals and disposals of cotton kapas during the month under report. The following were the arrivals and disposals of cotton lint during the month in Ramanathapuram District.

Lint: (candy, of 754 lb.)

Name of Market	Opening Stock	Receipts	Disposals	Closing Stock
Virudhunagar	... 50	...	10	40
Sattur	... 50	...	...	50
Rajapalayam	... 1,000	...	600	400
Total	... 1,100	...	610	490

Kapas: No transaction.

Prices:

Kapas: (Pothe of 280 lbs.)

December, 1960

Rs.

Karunganni	...
Karunganni 2nd Crop	90 to 123
Tinny	103 to 118
Uganda 1st quality	...
Uganda 2nd quality	125 to 138
Uganda 3rd quality	100 to 118

Lint: (In Candy of 784 lbs.)

January, 1961

Rs.

Karunganni	900	875 to 880
Karunganni 2nd Crop	...	850 to 870
Tinny	...	840 to 832
Uganda Certified	1240 to 1306	...
Uganda Uncertified	1025	986 to 1080

Cotton seed:

Prices in Rs./n P. per Standard Maund.

Karunganni	15.34 to 15.83	14.09 to 15.72
Tinny	15.66 to 16.16	16.00 to 16.32
Uganda 1st quality	...	11.80 to 14.58
Uganda 2nd quality	...	12.07 to 12.72

TIRUNELVELI DISTRICT: *Season*: The rainfall received during the month under report was reported to be excessive and the same was also reported to be beneficial to the cotton crops.

Arrivals and Transactions: The following were the arrivals and disposals of cotton in Koilpatti and Sankarankoil markets during January, 1961 (in candys):

Name of Market	Opening balance	Receipts	Disposals	Closing balance
Koilpatti (Karunganni)	1,200	1,200	980	1,420
Uganda	120	...	120	...
Sankarankoil	900	100	420	580

Prices: The prices remained steady.

Karunganni 1st Sort Rs. 115/- pothi of 127 kilograms.

Karunganni 2nd Sort Rs. 105/- to 110 pothi of 127 kilograms.

Uganda Rs. 142/- do.

SOUTH ARCOT DISTRICT: *Season*: Wide spread rains were received during the month under report. Harvest of winter groundnut crop was in progress.

Arrivals and Transactions: Cotton Kapas: Villupuram market had an arrival of 180 candys. Despatches to Coimbatore District came to 204 candys. A stock of 195 candys was left with the trade at the end of the month. The average price per candy of 360 kilograms worked out to Rs. 191/-

Groundnut:

SOUTH ARCOT DISTRICT: *Arrivals and Transactions*: *Groundnut kernel*: Arrivals to market were on the decrease. Receipts from the District produce came to 4605 tonnes and from North Arcot and Tiruchirappalli Districts to 896 tonnes. Consumption by Oil Mills and country chekkus was 4039 tonnes and 239 tonnes respectively. Despatches to Madras, Tiruchirappalli, Salem, Tirunelveli and Ramnad Districts totalled 3306 tonnes. Export to Pondicherry State came to 58 tonnes. Wastages were calculated at 222 tonnes. The stock with the trade at the end of the month stood at 3987 tonnes.

Prices improved mildly due to decreased arrivals and the average price paid at the several markets ranged from Rs. 60/- to Rs. 69.20 per bag of 60 kilograms according to quality.

RAMANATHAPURAM DISTRICT: Arrivals and Transactions: Virudhunagar:

Name of Market	Opening Stock	Arrivals	Sales	Closing Stock
Groundnut pods (in tons)	300	1,800	1,800	300
Groundnut kernels (candy of 531 lbs.)	4,100	10,400	9,200	5,300

Prices: The following were the prices for groundnut and groundnut products that prevailed during January, 61 and previous month.

	January, 1961	December, 1960
Groundnut pods maund of 82-2/7 lbs.	Rs. 18 to 22	Rs. 17-00 to 23-50
Groundnut kernel pucca	„ 210 to 227	„ 200-00 to 230 00
Groundnut kernel katcha	„ 190 to 216	„ 165-00 to 218-00
Groundnut oil tin of 35 lbs.	„ 28 to 29-50	„ 28-00 to 29-50
Groundnut oil cake	„ 12-37 to 14-04	„ 13-05 to 15-38

NORTH ARCOT DISTRICT: Season: There was no rain during the month under report. The sowing of summer groundnut crop took place during the month.

Arrivals and Transactions: The arrivals, disposals, stocks etc., of groundnut in the district during the month were as below:

	Quantity in metric tons.			
	Old Stock	Arrivals	Disposals	Closing Stock
Groundnut pods (in metric tons)	60	647	689	18
Groundnut kernel (in metric tons)	331	2911	2872	370

Prices:

Groundnut pods (bags of 40 kgs.)	Rs. 22-25 to 27-25
Groundnut kernel (candy of 240 kgs.)	„ 202-00 to 230-00
Groundnut oil (candy of 226 kgs.)	„ 395-00 to 440-00

TIRUCHIRAPALLI DISTRICT: Excepting some light to moderate showers here and there in the district, generally dry weather conditions prevailed during the month.

Arrivals and Transactions: The Regulated market Jayankondan received 6838 bags of 30 kilograms and Ariyalur 392 bags during the month. The arrivals in Jayankondan has gone down during the month but picked up slightly in the case of Ariyalur.

Prices: The average price was worked out to Rs. 208-90 per candy of kernel.

Gingelly:

SOUTH ARCOT DISTRICT: Arrivals were mostly to Vridhachalam market and totalled 405 bags in all. A quantity of 1100 bags was despatched to Madras, Ramanathapuram, Salem, Thanjavoor and Tirunelveli Districts. 216 bags were crushed in country chekkus. The trade had a stock of 34 bags only at the close of the month. The average price per bag of 80 kilograms was Rs. 98-50.

Tobacco:

COIMBATORE DISTRICT: At the end of the month under report there was a stock of 23839 quintals of chewing and 4274 quintals of cheroot tobacco. About 4814 quintals of chewing and 866 quintals of cheroot tobacco were exported to places in Kerala and Mysore States and to Salem, Thanjavoor and Trichy Districts of Madras State.

The tobacco market remained dull with limited demand from merchants of exporting centres. The tobacco cured by Jaffna method was sold up to Rs. 661-35 nP. per quintal in Palladam. The prices of cheroot tobacco declined to the extent of Rs. 30-00 per quintal for a load of Rs. 198-00 in the previous month in the Erode market.

The following were the prices that prevailed during the month.

Variety	Ist Grade	IIInd Grade	IIIrd Grade
	Rs./nP.	Rs./nP.	Rs./nP.
1. <i>Chewing tobacco-sun cured:</i>			
(a) Meenampalayam	176—239	154—187-38	110-00—133
(b) Other varieties	154—220	132—176-00	44-00—99
2. <i>Cheroot varieties-sun cured:</i>			
Grown in Erode and Bhavani taluks	154—176	132—154-00	44-00—66
3. <i>Chewing tobacco-pit cured:</i>			
Grown in Palladam and Sular areas	...	...	66-13—100

Cardamom:

MADURAI DISTRICT: During the month the rainfall received was good in the first two weeks of the month under report.

Arrivals of cardamom were reported to be fair. A major portion of the crop was reported to be harvested in Kerala and Madras States. Despatches were to Bombay, Delhi, Amritsar, Calcutta, Nagpur, Kanpur, etc. Exports to United Kingdom and Continental ports were also made.

The prices were reported to be steady in the first week of January '61.

Estimated arrivals and despatches during the month and stock position at the end of the month.

Name of the Assembling Centre	Opening Stock	Quantity in lbs.		Stock in the market and plants	
		Arrivals	Despatches	1	2
Bodinaickanoor	1,500	62,000	61,000	2,500	40,000
Thevaram	1,000	21,700	22,700	Nil	30,000
Pannaipuram	Nil	Nil	Nil	Nil	15,000
Kombai	Nil	1,000	1,000	Nil	2,000
Uthamapalayam	1,000	3,000	3,000	Nil	15,000
Cumbum	8,000	Nil	Nil	Nil	20,000
Gudalur	Nil	Nil	Nil	Nil	5,000
Pattiveeranpatti	1,000	38,000	38,000	Nil	4,000
Virudhunagar	20,000	1,10,000	1,05,000	25,000	Nil

1. *Bodinaickanoor* : Prices in Rs./n.P. per lb.

(1) Superior bulk	Rs. 9.71 to 9.76
(2) Medium bulk	„ 8.06 to 9.05
(3)	„ 7.62 to 8.11
(4) Inferior bulk	„ 6.52 to 7.98
(5) Splits	„ 6.50 to 7.01
(6) Lights	„ 5.05 to 6.11
(7) Seeds	„ 9.00 to 9.50

2. *Virudunagar* :

Bold quality	„ 9.00 to 9.25
Smalls	„ 7.25 to 7.50
Stipulant	„ 6.75 to 7.00
Seeds	„ 10.50 to 11.00

3. *Pattiveeranpatti* :

(a) Sundried :

Superior and Bold	„ 8.78 to 8.32
Medium and Bulk	„ 7.75 to 8.24
Inferior and small	„ 6.79 to 7.77

(b) Store - green :

Superior and Bold	„ 8.85 to 9.98
Medium and Bulk	„ 7.96 to 8.78
Inferior and small	„ 7.50 to 8.19
Splits	„ 6.41 to 7.31
Lights	„ 4.22 to 6.18
Seeds	„ 9.00 to 10.02

Review of administrative activities of Market Committees in the State during the month of January 1961

The Market Committees of South Arcot, North Arcot, Coimbatore, Trichy, Tirunelveli and Ramanathapuram are functioning briskly during the month :

Name of the Market Committee	Section 5 (1)		Section 5 (3)		Weighmen	
	A	B	A	B	A	B
South Arcot Market Committee	616	616	387	387	349	349
North Arcot Market Committee	247	247	239	239	134	134
Coimbatore Market Committee	438	438	309	309	230	230
Tiruchirapalli Market Committee	279	279	238	238	206	206
Tirunelveli Market Committee	46	46	19	19	48	48

A = Licences issued during the month.

B = Licences issued upto this month.

Meetings : No meetings were held during the month under report.

Quality Analysis : Nil.

Quality Competition : Nil.

MONTHLY SHORT NOTES ON CARDAMOM PRICES.

During December 1960, the rainfall was poor to fair in the cardamom plantation areas in Madurai district and in Kerala hills. The stand of crop was good. Agricultural operations like spraying, picking of fruits and curing were going on.

Arrivals were comparatively poor in all assembling centres in Madurai district, except Pattiveeranpatti and in Kerala hills. About 75% of the estimated crop of the season is harvested. The estimate for the season was 40 lakhs lbs. while the total crop of 1959-'60 was about 27 lakhs lbs. from Kerala and Madras State.

Despatches were mainly to Bombay (3409 bundles), Delhi (865 bags), Calcutta (521 bags), Amritsar (509 bags), Kanpur (181 bags), Agra (25 bags) and other centres (52 bags). Besides exports were also made to U. K. and continental countries. Sales at Bombay were better during the month when compared to the sales of previous month. 1939 bundles of cardamoms were sold while during the previous month the total sales were 1811 bundles. The stock at Bombay on 30-12-1960 was estimated at 5000 bundles.

During the first week of the month the prices were slightly higher in all the assembling centres. At Bodinayakkanur and Thevaram the prices were higher by 12 to 25 nP. per lb. compared to the prices prevailed during the previous week. Demand was good during the week. During the second week of the month the prices were steady at Bodinayakkanur and Vantanmettu. At Pattiveeranpatti and Thevaram the prices were higher by 10 to 25 nP. per lb. During the third and fourth weeks of the month the prices remained steady in all the assembling centres except Pattiveeranpatti where the prices were lower by 10 to 12 nP. per lb. in the auction held on 29-12-1960.

Prices prevailed at Bodinayakkanur, Virudhunagar and Pattiveeranpatti during the month of December are given below :

Prices :

1. Bodinayakkanur :

Name of quality.	Price in Rs./nP. per lb.
Superior	8-89 to 9-44
Medium	7-90 to 8-90
Inferior	6-75 to 8-05
Lights	3-68 to 7-50
Splits	5-50 to 7-21
Seeds	9-65 to 11-02

2. Pattiveeranpatti :

Price in Rs./nP. per lb.

Sundried :	
Superior and bold	9-14 to 9-24
Medium and Bulk	8-00 to 8-67
Inferior and small	6-46 to 7-99
Store Green :	
Superior and bold	8-80 to 10-22
Medium and Bulk	8-16 to 9-04
Inferior and small	7-00 to 8-24
Splits	6-87 to 7-78
Chaffs	4-25 to 6-85
Seeds	9-93 to 10-83

3. Virudhunagar :

Bold quality	9-25
Smalls	7-50 to 7-75
Bulk	8-25
Seeds	11-00 to 11-25

Estimated arrivals and despatches during the month and stock position at the end of the month.

Name of the assembling centre	Opening Balance	Arrivals	Despatches	Closing Stock
Bodinayakkanur	1,000	90,500	90,000	1,500 lbs.
Thevaram	1,000	32,000	32,000	1,000 lbs.
Pannaipuram	Nil	Nil	Nil	Nil
Kombai	Nil	5,000	5,000	Nil
Uthamapalayam	1,500	8,000	8,500	1,000 lbs.
Cumbum	8,000	Nil	Nil	8,000 lbs.
Gudalur	Nil	Nil	Nil	Nil
Pattiveeranpatti	1,000	1,01,000	1,01,000	1,000 lbs.
Total	12,500	2,36,500	2,36,500	12,500 lbs.
Virudhunagar	50,000	1,10,000	1,40,000	20,000 lbs.

Total arrivals in auction centres in Kerala hills from 2-12-1960 to 29-12-1960 were 3,56,000 lbs.

Other Markets

Name of the market centre & quality of cardamom	Rate per local unit of weight in Rs./nP.	Rate per lb. in Rs./nP.
I Bombay :	Rate per kgm.	
Cardamom white	17-00 to 18-00	7-72 to 8-18
Cardamom Soneri	19-00 to 20-00	8-63 to 9-09

Other Markets (Contd.)

	Name of the market centre & quality of cardamom	Rate per local unit of weight in Rs./nP.	Rate per lb. in Rs./nP.
II	Sakalespur : Arrivals 875.64 qunitals Sales 481.00 „	12-90 to 22-40	5-86 to 10-01
III	Sirsi :	16-50 to 17-92	7-53 to 8-14
IV	Mangalore :	17-50	7-95
V	Amritsar : Mysore rabin Motta Green Bold Extra bold	19-35 to 22-57 20-42 to 25-80 23-65 to 26-87 26-87 to 30-00	8-79 to 10-02 9-23 to 11-23 10-75 to 12-21 12-21 to 13-68
VI	Mercara : Coorg F. A. Q. Coorg Nad Coorg Male Coorg Green Arrivals 1366 mds. (28 lbs.) Despatches 1393 „ Stock 7460 „	Rate per maund. 499-38 to 563-96 543-44 to 675-38 470-00 to 572-00 558-13 to 660-94	6-07 to 6-84 6-60 to 8-20 5-71 to 6-95 6-79 to 8-03
VII	Delhi : Small green cardamom	Rate per seer 19 to 28	9-21 to 13-60
VIII	Kanpur : Sakalespur Bodinayakkanur Mangalore	Rate per md. of 46 seers. 1060 to 1080 1250 to 1275 1260 to 1295	11-15 to 11-37 13-15 to 13-32 13-26 to 13-52

College and Estate News

Academy of Agricultural Sciences : Dr. N. D. Peacock, Campus Administrator of the University of Tennessee, Indian Agricultural Programme and Dr. O. Kohnke, Chief Agricultural Advisor of West Germany Potash, Hanover addressed the members of the Academy of Agricultural Sciences on 2nd and 16th February 1961 respectively

Sports : The Badminton team won the University Inter-Divisional Championship for our college.

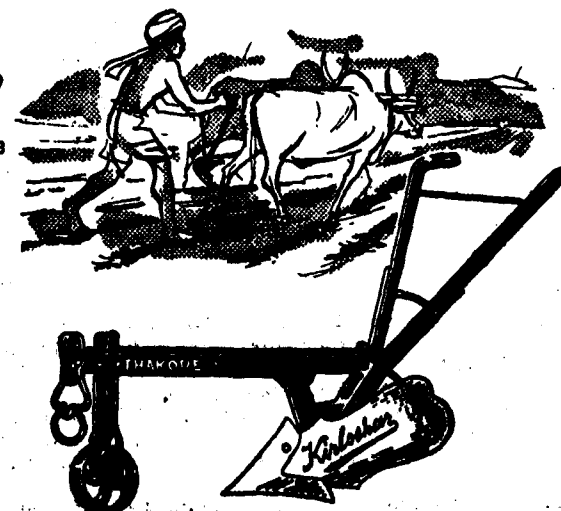
Republic Day Contingent : It is a matter of pride for us that U/O Joseph Lourdes of our college N. C. C. Rifle company and COMS. M. Rengaswamy and O/C K. Marimuthu of N. C. C. were selected by the Madras Circle to take part in the Republic Day celebrations at New Delhi on 26-1-1961. It is remarkable that three cadets from a single college have been selected to represent the Madras circle of National Cadet Corps of India during the year's Republic Day parade.

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