

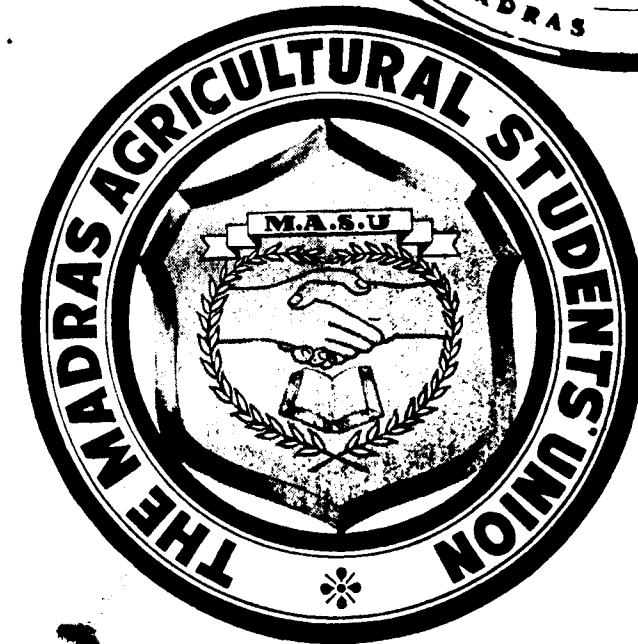
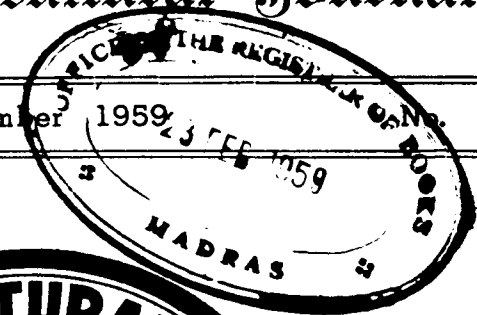
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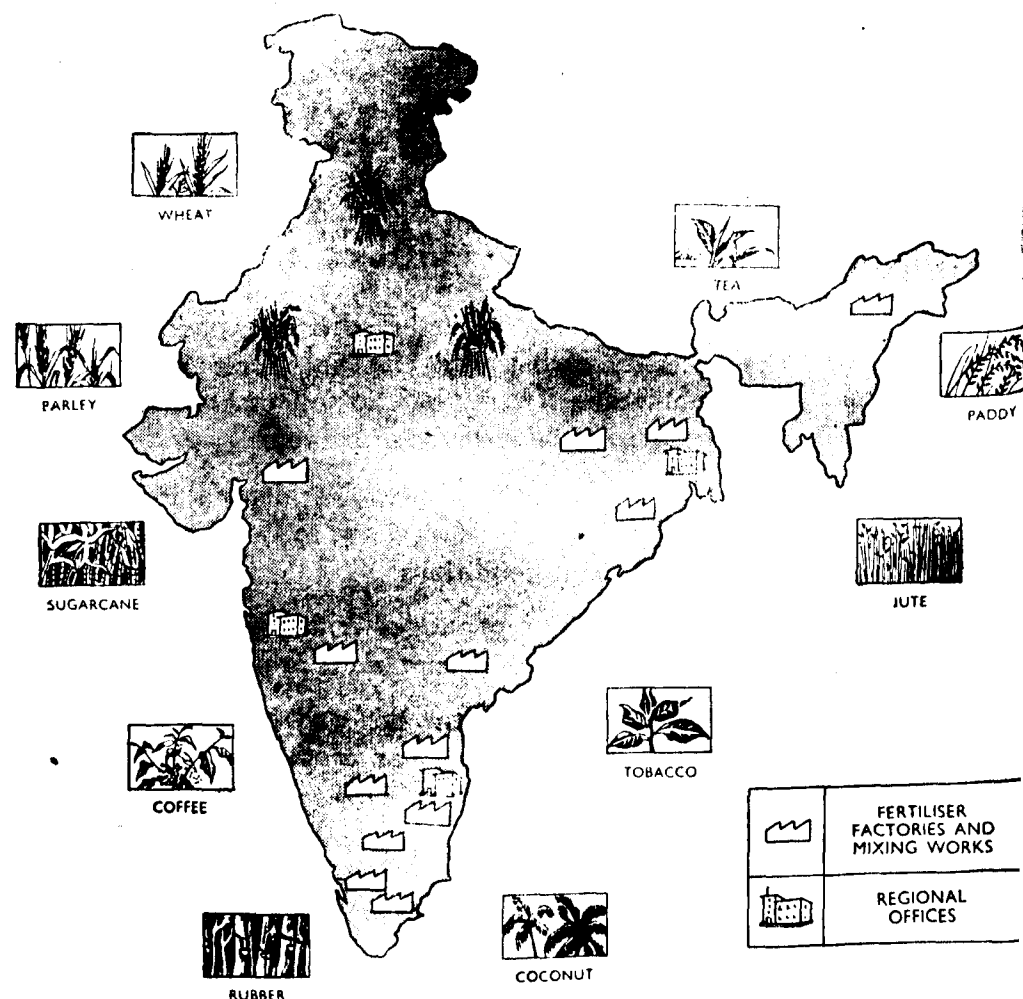
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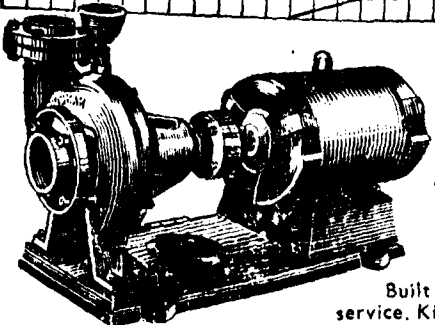
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The Madras Agricultural Journal

Vol. XLVI

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Editorial

Package Programme: The Ford Foundation team in their recommendations for intensified work for increased Agricultural production, suggested on a pilot project basis, the trial of an integrated approach to step up food output. This is popularly known as 'Package programme' or 'Package deal' as all the requisites for increased production are to be made available simultaneously, rolled into a package as it were. This scheme envisages provision of adequate and timely credit for all farmers based on production plans, supply in time of means of production as improved seeds, fertilizers, pesticides and improved farm implements within bullock cart distance and intensified education of farmers in improved methods of farming through demonstration and propaganda with guarantees against losses if any and assurances of a reasonable floor prices for food grains and provision of proper marketing facilities. The scheme is proposed to be given a trial in Tanjore District and the Foundation's representatives visited the District recently and contacted both officials and non-officials in connection with the proposals for the implementation of the scheme.

The idea of applying all measures for intensifying production by cultivators is not unknown in "Grow more food" campaigns conducted in the past. In fact, in addition to production requisites, price fixation and provision of credit and marketing facilities simultaneously were always considered as essential for increased Agricultural production. But, it has, invariably, been the experience that resources of men and material for the purpose were inadequate to cope up with the requirements and price fixation was a thorny problem. The package deal would involve very large resources, trained personnel and enunciation of a bold price policy. Else the scheme may remain on paper only. Even if it is intended to cover only Paddy crop in Tanjore District, it would involve an acreage of about 13 lakh acres. At a modest estimate of 30 lbs. per acre for all the 13 lakh acres and 30 lbs., of improve-

in recent years in Dalapon (2, 2-dichloropropionic acid). Thus it is reported by Alley and Bohmont (1) that application of Dalapon at rates varying from 3 to 20 lb. per acre gave good control of both grassy weeds and broadleaved weeds in sugar beets.

Experiment: In the light of these results and reports, a trial was laid out at the Agricultural Research Station, Nanjanad to see how far, TCA, CMU and Dalapon could control Kikuyu grass, the most persistent perennial weed of the locality. An uncultivated patch of land thickly matted with Kikuyu grass was chosen for the layout of the trial. The five treatments viz., (1) control (no spray) (2) TCA at 100 lb/acre (3) Dalapon at 16 lb. per acre (4) CMU at 16 lb. per acre and (5) a combination of Dalapon and CMU at 16 lb. each per acre, were replicated six times. The application of all the three chemicals was done in the form of an aqueous spray, on 9—9—1958, using a spray volume of 100 gallons per acre for all treatments.

From the date of spraying, regular observations were recorded for a period of 15 weeks and the efficiency of the chemicals is assessed in the observations given below. In view of the dense growth of the grass, it was not possible to make any quantitative assessment of mortality by the usual method of taking counts of plants destroyed by the herbicides in quadrats taken at random in the plots, before and after spray treatment. The detailed observations were continued for a period of 15 weeks, after which further observations were recorded in December, 1958 and in March, 1959.

Treatment No. 1: (*Unsprayed control*) The control plots remained quite green and densely matted with the grass, with frequent new growths after periodic showers. In March, 1959, also, these plots remained uniformly green and covered with a thick mat of grass.

Treatment No. 2: (*TCA*) Within two hours of spraying the chemical, the leaves of the grass showed scorching at the tips and margins and thereafter the drying-up continued till the plots looked bone-dry at the end of 20 days after spraying. It was also observed that a few patches of grass, that had received lesser quantities of the spray material, also turned brown and dry after ten days and eventually dried up completely in about a month. Thereafter, the plots remained quite dry, with no regrowth whatsoever, for the rest of the observational period until the end of December, 1958, i. e.,

for a period of 16 weeks. When these plots were inspected once again in the last week of March, 1959, when nearly 28 weeks had elapsed after the weedicide spray, a few small green tufts of new grass were noticeable.

Treatment No. 3: (*Dalapon*): Scorching and leaf-drying commenced on the third day after spraying and the drying up continued for nearly 1½ months, at the end of which the plots assumed a completely dry appearance. Here too, stray patches that had received lesser spray material dried up subsequently. Two months after spraying however, isolated patches were seen to rejuvenate, though the re-growths were very slow and feeble. At the end of the observation period, the plots were found dry for the most part, barring a few small patches of green regrowths here and there. Twenty-eight weeks later, the dry grass was seen to be sparsely intermingled with green grass.

Treatment No. 4: (*CMU*): Leaf-drying commenced three days after spray treatment in isolated patches and at the end of two weeks, the plots had a half-dry-half-green appearance which lasted unchanged throughout the observation period. By March 25th, 1959 these plots showed a fair growth of new grass.

Treatment No. 5: (*CMU and Dalapon*): Drying of the leaves commenced three days after spraying and the plots turned completely dry in about a month's time. This continued practically till the end of the observation period, although three or four small tufts of green regrowths could be seen scattered in the plots about two months after spraying. Seven months after spraying i. e., in March, 1959, these plots showed a moderate growth of fresh grass intermingled with the old dry grass.

Discussion: The results indicate that TCA is the most effective amongst the three herbicides tried. Its scorching effect was discernible even within a few hours after spraying and no regrowth of any kind occurred throughout a period of 105 days. That the herbicide kills the grass through the roots was evident by the fact that even the patches which were not covered by the spray material directly, were acted upon subsequently, resulting in a uniform drying-up of grass. Its efficiency in controlling Kikuyu grass is further underlined by the fact that there was no rejuvenation of grass at all for a period of 16 weeks after spraying and even seven months, with sprayed plots showed only very small tufts of regrowths.

income per acre based on enquiries on three average holdings are furnished, together with suggestions by adopting which the cost can be reduced and the income enhanced.

Cost and income per acre (average of three holdings) :

(a) *Expenditure :*

Head of Account.	Rs.	nP.
Preparatory cultivation (three ploughings) ...	25	25
Manures and manuring ...	46	46
Seeds and sowing ...	5	61
Irrigation ...	42	25
After cultivation ...	21	57
Harvesting ...	48	36
Misellaneous ...	22	75
Total ...	212	25

(b) *Receipts :*

Yield ...	1060 lb. of kapas
Valuation at Rs. 150/- a 'pothi' of 336 lb. of kapas }	Rs. 473 20
Deduct cultivation cost ...	Rs. 212 25
Net income ...	Rs. 260 95

Suggestions for reducing cost and raising income.

Preparatory Cultivation : The item that requires improvement is in regard to final preparation for sowing. After the third ploughing instead of forming beds and channels, the field can be thrown into ridges and furrows $2\frac{1}{2}$ feet apart. The labour utilised for breaking up clods in final operation can be reduced by one or two and utilised for this operation. This requires some skill in working with the *mammatty*. Therefore, wherever possible a ridge plough can be used to reduce costs. Line sowing has advantages; it secures a saving in seed rate, ensures a better and uniform germination, assures an economic way of using irrigation water, and secures better facilities for weeding, plant protection and harvest operations.

Manures and Manuring : Farm yard manure at five cartloads or sheep penning (800 to 1000 per acre) is generally adopted. This practice should become universal and wherever possible the quantity of basal dressing of Farm Yard Manure or compost can be raised to 10 cartloads per acre. Ammonium sulphate is also given as a top dressing at 100 lb. to the acre and that in one dose i. e. between the 40th and 45th day after sowing. It is preferable to use this in two doses, half just before planting time and the second 35 to 40 days after planting.

Seeds and Sowing : Seed is generally broadcast and covered with the country plough. This can be improved by dibbling the seeds 6" apart on the sides of ridges spaced $2\frac{1}{2}$ feet apart. With this method 15 lb. of seed is enough whereas when broadcast 25 lb. of seed may be required.

Before sowing, the seed may be soaked for 4 to 6 hours in water, water drained off and the soaked seeds rolled in a paste made of water and cowdung or earth. After this treatment the seed is well mixed with Agrosan G. N. at 1 oz. for every 15 lb. of seed and dried. This does not cost more than 4 annas and this treatment gives protection to the germinating seeds and the seedlings against soil borne diseases and black-arm.

Where skilled labour and facilities are available the fuzz on the seed can be removed by treating the seed with con. sulphuric acid at $1\frac{1}{2}$ lb. for 15 lb. seed (This may cost 6 to 8 annas more).

After Cultivation : With the adoption of line sowing, it should be possible to dispense with manual labour for weeding and earthing up operations. Plant Junior Bullock hoes and double mould ploughs may be used with advantage for all interculture operations.

Irrigation : The cheapest is gravitation irrigation. Mhote irrigation with wells in regions where tanks are not available can be replaced by electrically operated pump sets. One important principle is that irrigation is to be given at 10 to 15 days interval during pre-flowering phase, but during flowering and tender boll stage it should be more frequent say, at weekly intervals and again as the fruits reach maturity and bursting stages, irrigation may be at longer intervals.

Plant Protection : Common pests are leaf roller, jassid and boll worm. Common disease is black-arm. These can be controlled by adopting the following schedule.

Endrin may be sprayed at 1 oz. in 6 gallons of water when the crop is a month old. This is for checking jassid and other insects.

A second spraying may be done with a combination of 4 oz. folidol, 1 lb. of any copper oxychloride fungicide like 'cupravit', 'Shell copper' etc. in 40 gallons of water. This is to check boll worm and other insects and for controlling black-arm. This may be done when the crop is about 2 months old.

The combined spray may be repeated when the crop is 3 months old.

By this time most of the pests and diseases would have been controlled. Should they persist, a fourth round (combination again) may be given if absolutely necessary.

Harvests: It is very essential that kapas are gathered from well burst bolls and that in the cool hours of the day. By so doing trash may be eliminated. Let the harvests be frequent to avoid over exposure in the field with attendant risks of dust accumulation, soiling by rain splash and possible stealing. As far as possible it is desirable that bad kapas are separated from good produce even during harvest as otherwise boll worms that are more in bad locks may have access to good locks which get affected as a consequence. The produce may be dried to remove dampness and stored in a dry cool place till required for ginning.

Conclusion: By adopting all the improvements it is possible to raise the yield of seed cotton by 50 to 100 lb. per acre.

Acknowledgments: My thanks are due to Sri K. Kannayan, B. Sc. (Ag.), Assistant Cotton Specialist, Extra Long Staple Cotton Scheme, Srivilliputhur and Sri A. Raghavan, B. Sc. (Ag.), Assistant Cotton Specialist, K. 2 and MCU. 2 Seed Multiplication Scheme Kovilpatti for data gathered on the cost of cultivation in their respective jurisdictions.

The Bean Aphid Control with Systemic Pesticides

by

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Introduction: According to Martin (1947 and 1949), Systemic insecticides are those formulations which are absorbed by the plants and translocated to other parts in such quantities that they have insecticidal action. Based on the decomposition of such chemicals within the plants, three broad categories of systemic poisons have been recognised. The first group includes chemicals like selenium which remain more or less in a stable form and do not undergo any disintegration. The second comprises of compounds like Schradan, Pestox, Hanane, etc., which even after absorption persist in their original form and act as insecticides until they are decomposed. The last category includes insecticides like Systox and Metasystox, which after absorption get transformed into other toxic substances that also act as insecticides. As a result of this phenomenon, the toxicity of the original formulation is enhanced considerably.

Nagaraja Rao and Krishnaswamy (1952), have recorded the usefulness of Schradan, Sytam, Pestox, Tetrax and Isopestox in the control of aphids and mites. Sundaram (1952) after testing a number of organic pesticides, has concluded that BFPO reduces appreciably the incidence of *Lecanium viride* Gr. on coffee. Ripper (1952) in his paper read at the Third International Congress of Crop Protection held at Serbonne has dealt at considerable length on the work done with systemic insecticides in different countries.

The present investigation is mainly intended to evaluate the efficacy of three more recent and potent formulations, of systemic chemicals in the control of the bean aphid-*Aphis craccivora* Koch on, *Gliricidia maculata*. This pest thrives on a variety of hosts, viz., *Dolichos lablab*, *Vigna catjang*, *Arachis hypogaeae*, *Phaseolus radiatus*, *Phaseolus mungo*, *Medicago sativa*, *Indigofera* sp. and a few other leguminous crops as well.

Materials and Methods: The outbreak of a serious incidence of the above mentioned pest at Coimbatore on *Gliricidia* plants, was availed of to study the insecticidal efficacy of three systemic pesticides, viz., Systox (50% Demeton-Diethoxy thiophosphoric ester

of 2 ethylmercapto-ethanol), *Metasystox* (Thioglycol dimethyl phosphoric ester) and *Hanane* (50% Dimefox-a mixture of Bis dimethyl amino fluorphosphine oxide and Bis dimethyl amino phosphorous anhydride). A set of five plants, replicated four times was taken under each treatment.

Systox and Metasystox were applied directly on the plants as a spray at 0.05% concentration (one fluid ounce of the chemical in 12½ gallons of water) and through the medium of irrigation water at the same strength in another set of plots. For the latter method, the spray fluid was taken in a rosecan and poured evenly around the base of the plants. Hanane, available in the form of water soluble capsules (weighing one ounce each) was inserted into the soil at a depth of six inches. One capsule was utilised to cover an area of one hundred square feet. All the plants under observation were watered once a week.

For assessing the population (counts) of insects before and after the treatments, twenty five mature leaves were taken at random per plant. Thus for each variant 500 leaf samples were examined. For ensuring uniformity, only the apterous forms present on the leaves were counted. The efficacy of the different chemicals was adjudged with reference to the reduction in aphid population at the end of 48 hours and one week after the insecticidal application.

Similar observations were made at weekly intervals extending to a period of six weeks from the date of treatment to assess the residual toxicity of the different variants. The effects of the insecticidal treatments on the adults and grubs of *Chilomenes sexmaculata* Fabr., noted in appreciable numbers on the plants were also assessed.

A gist of the data gathered together with summary of statistical analyses is furnished in the appendices I, II & III.

Discussion of Results and Conclusions: The figures presented in the Table go to show that direct application of Systox and Metasystox has been quite efficient in the control of the aphid, causing 98 to 99 per-cent reduction in population in 48 hours. The irrigation treatments gave the same degree of relief only in the course of a week. A marked decline in the density of the population was evident under Hanane after a lapse of a week, reaching the cent percent level in the course of a fortnight.

Regarding residual action, the figures indicate that the treatments were able to ward off a recrudescence of the pest for a period of three to four weeks. The toxic effects began to decline after this interval as may be evident from the population recorded at the end of the fifth and sixth week after treatment.

A few dead specimens of adults and grubs of the predator *Chilomenes sexmaculata* Fabr., were noted on the plants directly treated with Systox and Metasystox. This Coccinellid was found to thrive successfully on the plants under the irrigation treatments and those under Hanane application.

The possibilities of controlling this aphid by means of irrigation treatment and by the use of water soluble capsules containing a systemic formulation can thus be considered as novel and more recent developments in the evolution of insecticidal measures of pest control.

Acknowledgment: The author is indebted to Sri P. A. Seshu, Statistical Assistant for his help in the statistical analyses of the data.

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APPENDIX I

Results of Experiments Designed to Assess the Insecticidal Efficacy

Lay out : Randomised blocks, replicated four times.	Weather conditions that prevailed during the period of experimentation (May to June) :
Total number of plants under each treatment : Twenty.	Range of maximum temperature ... 77.0 to 96.5 F.
Age of the Plants : About three years.	Range of minimum temperature ... 68.0 to 75.4 F.
Variants : Six.	Range of relative humidity ... 70.0 to 100 %.
Quantity of the chemical applied :	Rainfall in inches ... 6.40"
(a) Direct application as a spray—quarter of a gallon per plant.	
(b) Irrigation treatment—Half a gallon per plant.	
(c) Hanane application—Four capsules to cover an area of about 400 sq. feet.	

Treatment	Initial population on 125 leaves selected at random (Mean of 4 Replications)	Population on 125 leaves selected at random at the end of the specified periods after treatment (Expressed as mean of 4 Replications).				
		48 hours	One week	Four weeks	Five weeks	Six weeks
(A) Systox spray direct application at 0.05 %	384	4	Nil	29	54	67
(B) Systox spray fluid applied as irrigation at 0.05 %	298	88	Nil	38	59	92
(C) Metasystox spray direct application at 0.05 %	389	27	Nil	00	14	22
(D) Metasystox spray fluid applied as irrigation at 0.05 %	412	87	Nil	00	24	27
(E) Hanane capsules placed inside the soil at a depth of six inches	428	00	107	00	48	82
(F) Control	422	417	498	714	642	602

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APPENDIX II

Summary of Statistical Analyses.

(i) Insect population counts recorded 48 hours after the treatment.

	Treatments						SE _m	CD (P = 0.01)
	A	B	C	D	E	F		
Adjusted mean insect population count	7.63	113.49	23.10	53	26.23	10.62	28.31	120.01

Conclusion : E, F, B, D, C, A.

APPENDIX III

Summary of results.

(ii) Insect population counts recorded one week after treatment.

A week after treatment, the insect counts were 'Nil' in treatments, A, B, C, and D. Only the data in respect of treatments E and F were therefore analysed.

Treatments	Mean insect counts	Standard error of mean	Critical difference (P. 0.01)
E.	107	29.73	345.56
F.	498	...	...

Conclusion : F, E.

Utilisation of Farm Resources in Coimbatore Taluk

by

S. KANNAN,

Agricultural College and Research Institute, Coimbatore

Introduction: Farm production results from combining in various proportions the different factors of production land, labour, capital and management. Profit maximisation, then, is an attainable condition only when the farmer decides on the amounts and combinations of these four major resources of production. Any attempt to maximise farm profits, therefore, requires a prior knowledge of the productivity and returns of these resources used in farm production. So a study was undertaken in 1958-59 to estimate the nature of resource returns from a random sample of farms in Coimbatore taluk. Such information on resource utilisation and productivity will help to determine the quantity of particular categories of resources which should be employed and how the several resources should be combined for maximum production.

Materials and methods: The basic data used in the analysis was obtained by field enquires of 40 holdings drawn at random in Coimbatore taluk. The enquiry was restricted to cotton growing farms only in order to obtain a more homogeneous type of farms.

The statistics derived in the following analysis are based on Cobb-Douglas production function. It is a regression equation which is linear in logarithms and can be written as

$$Y = aX_1^{b_1} X_2^{b_2} X_3^{b_3}$$

Where Y refers to total value of the product and X^a refer to specified resources. The exponents b₁, b₂ and b₃ are the regression co-efficients of the input resources X₁, X₂ and X₃ respectively. Thus the production function equation for the sample drawn from the problem area has been derived as

$$Y = aX_1^{0.013} X_2^{0.381} X_3^{0.523}$$

Where Y refers to the total value of the crops produced on the farm; x₁ refers to the area of land in acres; X₂ is the quantity of labour used measured in man days and X₃ refers to value of all annual expenses (including seed, fertilizers, depreciation etc) expressed in rupees.

Interpretation of results: In the above equation the exponents show the elasticities of production for each single resource included. The elasticity of production indicates the percentage by which output increases as the resource is increased by one percent. In the case of labour used for crops, output is increased by 0.38 percent as labour input is increased by one percent (and other resources are held constant). Similarly a one percent increase in land and capital is followed by a corresponding increase of 0.013 and 0.523 percent output respectively. The elasticity co-efficients are less than one for each individual resource indicating that successive units of the resource, with other resources held constant add smaller and smaller quantities to the total value output i.e. diminishing returns exist in this area in respect of each resource when increased with other resources fixed.

The value of regression co-efficients or elasticities for the crop function are presented in the following table along with related statistics.

Elasticities and related statistics for crop function :

Item	Crop function
Value of constant 'a' (in log)	1.0355
Value of elasticities	
Land (b ₁)	0.013
Labour (b ₂)	0.381
Capital (b ₃)	0.523
Sum of elasticities	0.917
Value of 't' for elasticities	
Land	0.960 **
Labour	3.120 *
Capital	2.790 *
Multiple co-efficient of determination R ²	0.761

* Significant at 5% level

** Not significant at 5% level.

All but land elasticity are significant at 5 percent probability level. This indicates that increasing the area of land alone without a rise in other resources, will not give any significant additional output to the total product, whereas the individual contribution by labour and capital is positive.

The adjusted co-efficient of multiple determination indicates the percentage of the variance in total product associated with the independent variables. In this case 76% of the variance was explained by the variables. The 'unexplained' portion of the variance in total product can be partly attributed to variations between farms in respect to techniques employed, weather conditions, prices received for products etc.

Scale returns: The nature of returns, if all resource services, viz. land, labour and capital are increased, can also be examined. One characteristic of the production function equation of Cobb-Douglas type is that if the exponents are summed, the total gives the percentage increase to the total product. If the sum of the co-efficients is greater than 1.0, an increase in all resources by 1 percent will increase the value of output by more than 1 percent (increasing returns); a sum equal to 1.0 means constant returns; while a sum less than one indicates diminishing returns. In the above equation if the regression co-efficients of land, labour and capital are added a total of 0.971 is obtained, which means that if

all the three resources are increased by 1 percent the value of output is increased by only 0.971 percent. Even here, farmers in Coimbatore taluk encounter diminishing returns to scale when all resources are increased in the same proportion.

Discussion: Many studies of this nature have been made on farm data based on the same technique of regression analysis of Cobb-Douglas type or other in the estimation of production functions (Heady, 1946; Heady, McKee and Hayes 1955; Heady and Russell Shaw 1954; Suryanarayana 1958; Tolley, Black and Ezekeil 1924). Some of these studies indicate decreasing returns (1, 2, 4, 5, 8) while others indicate either constant or increasing returns to scale (2, 3, 4). Negative returns to scale, though rare, were also shown to have existed in Telengana farms (Suryanarayana 1958). So the exact nature of scale returns is still unknown but decreasing returns hold true for individual resources for all farm types in every region (1). In all these studies, however, management has not been included along with other input services since there is no objective measure of this productive agent. Production economists, notably Earl O. Heady, appear to think that it is likely that constant returns to scale should prevail if all factors including management could be increased and decreasing physical returns to scale are likely to be explained mainly in managerial limitations. It is the common knowledge that large farms normally require highly skilled management (1, 6, 7). But in this study the sample was drawn from all size groups and had it been possible to restrict the survey to either small or large farms only, the effect of management might well have altered the results in respect of each size unit. However, assuming that management is a cost that varies in direct proportion with the acreage of farms, the general findings of declining nature of returns in this area over the wide range of farm sizes covered by the study is an indication to guide farmers into a more profitable utilisation of their resources. The farmers employ more labour and thereby get less returns. Instead if they invest more in capital in the form of labour saving equipment they can not only reduce the labour employed but can also get better returns on capital thus invested.

Summary and Conclusion: A survey of farms in Coimbatore taluk was undertaken to find out the nature of resource returns in cotton farming areas. The statistical estimation of the production function study of the farm data indicates that farms in this area generally add marginal returns of diminishing nature as more and

more input resources are employed on the farms. These data also indicate that returns to labour and capital are positive while returns from land are very low. Assuming the managerial skill to be adequate on all sizes, these inferences derived from the sample of farms of different sizes in this area, will help farmers in an efficient reallocation of their resources more profitably.

Acknowledgment: I am much grateful to Sri T. Natarajan, B. A. B. sc. (Ag.), Agronomist and Associate Professor of Agronomy for his helpful suggestions and valuable guidance.

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Vegetative propagation of *Dolichos Lablab* L.

Propagation by vegetative means is a well-established practice in many horticultural crops. The main advantages of vegetative propagation are the relative simplicity of the operations, the low unit cost of production and, above all, the ease with which homogenous plant materials and valuable hybrids are multiplied for field experiments as well as for large scale cultivation. Therefore this method of propagation is one of high practical and economic importance.

In recent years, it has been established by research that crops like *cashew*, *castor*, *coffee*, *cotton*, *groundnut*, *tobacco* etc., which were hitherto raised from seeds can also be propagated by vegetative means. The intention of the present note is to place on record that vegetative propagation is possible in *Dolichos lablab* L. also, a crop which has been so long propagated by seeds only.

While examining the different ways and means for the commercial exploitation of hybrid vigour in *Dolichos lablab* L., the method of asexual propagation of the hybrids through stem cuttings, if found feasible, seemed to be a cheap and practical proposition. With this end in view, a preliminary study was initiated in September, 1958 at the Millets Breeding Station, Coimbatore.

FIGURE 1.



A vegetatively propagated plant of *Dolichos Lablab* L.

The material for the trial consisted of twenty defoliated stem cuttings, each with a length of nine inches and a diameter of about 0.50 cm., collected at random from 60 days old plants of D. L. 1428 (an extracted selection from *Dolichos lablab* L. var. *typicus* Prain. X *Dolichos lablab* L. var. *lignosus* Prain.).

The lower ends of the cuttings were trimmed to an oblique cut and placed in water immediately after collection. The cuttings were planted vertically, deep enough to keep them firm and in position, in wide-mouthed earthen pots containing a rooting medium made up of redsoil, sand and compost in the ratio of 2:3:1. The cut-ends at the top were smeared with cowdung to reduce the loss of moisture by evaporation. The planted cuttings were shaded and regularly watered by hand. Sprouting was noticed within a week after planting and out of 20 only four cuttings established themselves putting forth normal vegetative growth, flowering and fruiting (Fig. 1).

Besides establishing the fact that vegetative propagation is possible in *Dolichos lablab* L., the trial has also served to indicate that there is no difference in respect of plant-vigour, flowering, fruit development and yielding capacity between plants propagated from cuttings and those raised from seeds.

With a view to obtain more precise knowledge regarding the optimum technique of vegetative propagation in this crop and also to fix up the economic concentrations of growth promoting substances and root inducing hormones, further work has been programmed on a fairly elaborate scale.

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Study on evolution of non-shattering strain in rice

Shattering of grain at the time of harvest is one of the several factors that cause loss in yield of rice. This becomes a major problem in areas where rice is extensively grown but do not have facilities for harvest of the crop in time. Though certain amount of mechanical shedding is inevitable, it would go a long way in saving the losses if varieties which will stand delayed harvests without much shedding of grain are evolved. Grain shedding is increased when the crop is harvested deadripe and at the time when the straw is dry due to severe sun. However, in parts of Andhra Pradesh, there is a practice of harvesting the crop while the straw is still green and before the grains become deadripe and the sheaves are heaped for a few days before threshing. This method no doubt reduces, to a great extent the loss due to shedding but it is not possible to adopt this by all rice growers. This problem could be solved by breeding suitable varieties whose grains will not shed even when the harvest is delayed.

Presentation of data:

It has been found from experience at the Agricultural Research Station, Aduturai that strain ADT. 16 (Konakuruvai) a period-fixed variety with slender and fine grain exhibits shattering to a marked degree. This strain is capable of giving as high yields as 4000 lb. per acre during the first crop season (Kuruvai-June to September) but its cultivation on a large scale is limited due to its bad shedding quality. Therefore it was thought worthwhile to have a better strain resembling ADT. 16 in grain size with the desirable attribute of non-shattering habit by hybridization with a suitable variety. Strain GEB. 24, a season bound mutant from Konamani with fine grain and non-shattering habit was chosen as male parent and the hybridization was effected in 1949-'50. The progenies of successive filial generations were grown and critically studied with an eye to spot out desirable single plants which were again rigorously tested in the laboratory by means of a special apparatus designed by Hanumantha Row (1935) and the selections that fell short of the standard i. e. showing more than 5 percent shattering were summarily rejected and those possessing desirable characters were retained and studied.

During 1957-'58 in F. 8 generation, eleven cultures exhibited homozygosity from which seed materials were gathered for conduct of preliminary yield trials. Random samples of five ears in each culture were tested in the laboratory in the shattering apparatus and the shedding percentage was assessed and found to be less than one. During the Kuruvai season of 1958-'59, these eleven homozygous cultures were grown under preliminary yield trial with ADT. 16 as standard in

randomised and replicated blocks at the Agricultural Research Station, Aduturai. The grain yield data were statistically analysed and the summary of results is furnished in the Appendix I. It is seen from the table that two cultures were significantly superior to ADT. 16 while six cultures were on a par and three cultures were inferior. Further the two high yielding cultures viz., 2030 and 2009 were also found to be earlier than ADT. 16 by about a week which is another factor favoured by the ryots in this tract. The trial is being continued to fix up the best culture for release as improved strain for general cultivation.

The authors wish to record their gratitude to the past workers particularly Sri K. Ramaswami, former Superintendent, Agricultural Research Station, Aduturai who initiated the work and to Sri A. Abdul Samad, Paddy Specialist for his guidance in preparing the paper.

Agricultural Research Station,
Aduturai.

V. SRINIVASAN, and
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STUDENTS' CLUB

The students' club of the Madras Agricultural College was started in the year 1908-'09 and has been growing in strength. It is proposed to conduct the Golden Jubilee celebrations during February 1960. All the "Old Boys" of this college are requested to take part in the celebrations. It is desired to start a register of "Old Boys" and also an album containing old photographs bringing out the various activities, groups and individuals of the College. Please send your addresses, addresses of your friends and photographs, to the Secretary, Students' Club, Agricultural College, Coimbatore - 3.

Please look out for more details regarding Golden Jubilee celebrations.

APPENDIX I

Preliminary Yield trial of Homozygous Cultures of ADT. 16 × GEB. 24, Agricultural Research Station, Adulurai.

Field No. D. 1. a.

Size of plot : 20' 5" × 5' 10" (Gross & Net)

Layout : 12 × 4 Randomised blocks.

Planting : 10' × 5' Two seedlings per hole in lines.

Sown : 25—6—1958
Planted : 22—7—1958
Harvested : 10 & 18—10—1958

SUMMARY OF RESULTS

Particulars	2030	2009	2032	2010	2008	2031	ADT. 16 Standard	'F' test satisfied or not P = 0.05								Critical Standard differ- ence P = 0.05	
								1986	1987	2037	1986	1987	1988	1989	1990	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Acre yield of grain in lb. ...	2892	2776	2491	2485	2400	2360	2360	2326	2005	1368	1337	1177	Yes	131.5	379.6		
Percentage on standard ...	122.6	117.7	105.5	105.3	101.6	100.0	100.0	98.4	84.9	57.1	56.7	49.8	"	5.6	16.1		
Duration from sowing to flowering in days ...	71	77	73	79	83	73	84	73	83	83	77	82	...	...	...		

Conclusion : 2030, 2009, 2032, 2010, 2008, 2031, ADT. 16 Standard, 2033, 1988, 1987, 2037, 1986.

RECOMMENDATIONS OF THE COMMITTEE ON AGRICULTURAL PRODUCTION.

The committee on Agricultural production, which was constituted by the Government in August last has submitted its report. The composition of the Committee on the date of its report was as follows:—

Chairman :

Sri. M. Bhaktavatsalam, B. A., B. L., Minister for Agriculture.

Members :

Sri. R. A. Gopalasamy, I. C. S., Commissioner of Food
Production.
,, P. P. I. Vaidyanathan, Bar-at-Law, I. C. S., Secretary to
Government, Food and Agriculture Department.
,, A. Venkatesan, I. A. S., Director of Agriculture.
,, A. R. Venkatachari, I. S. E., Retired Chief Engineer,
Public Works Department.
,, V. K. Palaniswamy Gounder, M. L. C.
,, M. G. Sankar, M. L. A.
,, V. S. Thyagaraja Mudaliar, M. A.

Secretary :

Sri. V. Vasudevan, M. A., Deputy Secretary to Government.

The Committee was appointed by the Government to undertake a thorough scrutiny of the Food Production Plans with a view to assess the results achieved so far and to consider the further steps to be taken to accelerate the programme, so as to ensure the full achievement of the targets of additional production. As desired by the Government, the Committee extended its enquiry to the production of commercial crops also so as to cover the entire field of agricultural production in this state. The Committee's report has been published. It is a priced one and copies of it can be had from the Superintendent, Government Press, Madras. A gist of the more important recommendations of the Committee is given below.

Improved seed programme: The Committee is of the view that the work of seed multiplication and distribution at the primary stage in the State Seed Farms should be undertaken by the Government themselves even though they may have to incur some loss on this account, as it is of paramount importance to ensure the quality of the primary seeds released for further multiplication in the secondary stage. The Committee considers that it will not be necessary to open as many as 360 State Seed Farms as provided for the Second Five Year Plan and that it will suffice if there are 70 State Seed Farms of 25 acres each for paddy and millets and 140 State Seed Farms of 25 acres each for cotton, groundnut and millets or 210 State Seed Farms of 25 acres each in all. These 210 State Seed Farms will between themselves provide a State Seed Farm acreage of 3,000 acres for paddy, 1,500 acres for millets, 2,000 acres for cotton and 2,000 acres for groundnut. In order to reduce the

number of State Seed Farms and thereby ensure a more effective and closer supervision of the Farms and with a view to effect savings in the overhead charges, the Committee has recommended that all the existing State Seed Farms should be expanded into 75 to 100 acre farms, each of which should be managed by the same scale of staff as has now been sanctioned for a 50 acre farm. The State Seed Farms that may have to be started in future should also be only 75 to 100 acre farms. Every step should be taken to keep down the total outlay on the State Seed Farms to the minimum. The Committee has commended the suggestion that assessed waste lands and porombokes, which are satisfactory and suitable from the point of view of assured irrigation, fertility of the soil etc., may be used for locating the State Seed Farms, wherever such lands are available.

In order to improve the efficiency of the State Farms and with a view to induce capable hands to stick on to the jobs of Farm Managers and take an active interest in their work the Committee considers that it is absolutely necessary to give a bonus to each Farm Manager which should have a relation to the profit earned by the Farm during the period of his stewardship. The Committee has recommended the grant of a similar bonus to the other staff of the State Seed Farm also. In the Committee's opinion there would be better results, if co-operatives are started to undertake the seed multiplication and distribution work in each Development Block in an integrated manner. It has therefore suggested that the Agricultural Banks may be persuaded to take up this work, wherever they exist and that in other places, co-operatives may be started for the purpose. Both the Agricultural Banks and the other Co-operatives should obtain their primary seed requirements from the State Seed Farms. While the Committee considers that the subsidy of 25 nP. per bag of 160 lb., towards sealing charges now being given to the village seed farm ryots should be continued, it is of the opinion that there is no case for enhancing these rates of subsidy at present.

Soil testing service: The Committee has stressed the need for a rational fertiliser use as recommended by a soil testing service particularly in view of the present acute shortage of chemical fertilizers. It has recommended that a systematic survey of the soil in all the regions of this State should be conducted starting from the predominantly rice area with a view to draw up a detailed soil map of this State, that linked with this survey there should also be an agronomical survey of the entire State, that three more soil testing laboratories should be established at Madras, Aduthurai and Madurai and that in addition a soil testing laboratory should be established in each sugar factory area meeting the expenditure from the sugarcane cess fund.

Chemical fertilizers: The Committee has drawn attention to the present anomalous position in which the Government are on the one hand propagating the use of chemical fertilizers for stepping up agricultural production, while on the other hand they are unable to meet the increasing demand for chemical fertilisers created by their own propaganda on account of shortage of stocks and has recommended that more fertiliser factories should be established throughout the country in such a manner that no difficulty will arise in the matter of transporting the stocks by road or rail from the factories to the consuming areas. The Committee

is of the view that the distribution of chemical fertilisers through co-operatives should be ideal to be aimed at and that co-operatives which are already having the monopoly of distribution of nitrogenous fertilizers in the Development Blocks should be persuaded to take over the distribution of super-phosphate, potash and manure mixtures also in the Development Blocks, so that they may be given the monopoly for the distribution of these commodities also in the Development Blocks. As regards the Non-Block areas, the Committee consider that in these areas also the co-operatives should be given the monopoly for the distribution of chemical fertilizers as soon as enough co-operatives to handle the entire requirements of nitrogenous fertilisers, super-phosphate, potash and other manure mixtures in these areas are formed and begin to function. The committee has recommended that more co-operative manure mixing societies should be started as quickly as possible and that they should be given adequate quotas of straight fertilisers. Among the recommendations made by the Committee for ensuring that chemical fertilisers are made available to agriculturists in proper time are the placing of indents by the distributors on the Collectors sufficiently in advance of the time at which supplies are required for distribution to ryots and the receipt and disposal of all applications for loans under the Intensive Manuring Loan Scheme six months ahead of the cultivation scheme.

Organic manure: As the chief reason for the slow progress in the development of green manure is the inadequate supplies of green manure seeds, the Committee has recommended that the Forest Department should raise Sesbania and Glyricidia crops at least over 2,000 acres of forest lands, collect the seeds obtained from these crops and supply them to the Agriculture Department. The recommendations made by the Committee for augmenting green manure resources are:— Liberalisation of the existing concessions in the matter of removal of green manure leaves from the Government reserved forests; giving sufficient prominence for growing green manure plants etc., in the village forests which the Forest Department is now developing; the growing of green manure plants, etc., by the Forest Department on the fringes of reserved forests adjoining the villages which should make available the green manure leaves to the ryots of those villages; grant of permission to ryots under permits to plant green manure plant, etc., on the canal, channel, river, tank and road porombokes in charge of the Revenue, Public Works, and Highways Department; supply of water (wherever it can be so supplied) specially from Government irrigation sources for raising and irrigating green manure crops without undue restrictions; giving of a suitable cash incentive to the lascars of the Public Works Department, road gang workers of the Highways Department and village officers in order to induce them to grow green manure plants etc., on the banks of rivers, canals and channels, on road margins or in porombokes in their charges as the case may be; the remission of kist for the cultivation of green manure as a pure crop by ryots on lands which are classified as "current fallows", "other fallows" and "cultivable wastes", the institution of prizes at district, taluk and village levels for the producer of the best yield of green manure per acre at each of these levels in each district and holding of inter-village competitions in each district in green manure production and the award of a prize of the value of Rs. 10,000/- in the shape of developmental works of communal benefit to that village in each district, which raises green manure over the largest area.

The Committee has drawn attention to the fact that as the total of compost and farmyard manure production is only about 25 per cent of the requirements on a safe estimate, the target for compost production which has now been fixed is far too low. It has recommended that a revised target should be fixed aiming at a production, which should be calculated at the rate of 10 tons of compost per acre per annum for irrigated crops and 2 tons of compost per acre per annum for rain-fed area growing dry crops. An intensive drive should be launched to achieve this revised target. The compost development work should be stepped up both in the Development Blocks and in the Non-Block areas additional staff being employed where necessary. Village-wise targets should be fixed for compost development and scrupulously adhered to and the progress of the achievement watched periodically. The Forest Department should provide space in the fringes of reserved forests to ryots of the neighbouring villages for constructing their own compost pits and collect a nominal fee from the ryots per pit of specified dimensions. The Committee has also recommended that the feasibility of bringing within the easy reach of the average ryot the cattle dung gas plant which not only permits the use of cattle dung as fuel after its conversion into methane gas but also at the same time enables the use of the cattle dung sludge ejected by the gas plant as manure without any reduction in its manurial properties should be investigated and the Government should offer to give financial assistance for the setting up of 1,000 of these plants in the shape of 50 per cent of the cost as a subsidy and the remaining 50 per cent as a loan.

The Committee's recommendations in respect of other manures are : the export of oil cake outside the country should be carefully regulated so as to ensure that enough supplies are made available for use within the country both as cattle food and as manure; the use of fish meal as manure after processing should be popularised with a view to its utilisation to the fullest extent especially in the coastal areas of the State; as bone meal and hoof meal are two of the best sources of phosphate their export to other countries should be banned; and flaying centres equipped with bone meal digestors should be opened on a co-operative basis in large numbers at the rate of at least one for every group of two or three Development Blocks with a view to provide sufficient quantity of bone meal for application to crops.

Major irrigation works : As regards major and medium irrigation, the Committee's main recommendations are : the surplus waters that are now being allowed to go to waste down the rivers in the neighbouring State of Kerala and Andhra Pradesh should be diverted to this State as quickly as possible with the willing co-operation of the Governments of those States; a systematic survey of all the jungle streams in this State should be conducted with a view to harness their flood waters; experiments should be conducted to obtain definite results regarding economy in the use of water and the circumstances under which the maximum yield from one acre of land and the maximum return from one cubic foot of water can be obtained; and the formulation of suitable schemes for utilising fully the drainage waters in several of the irrigated areas with a view to effect improvement to the duty of water and for relieving submersion of large areas under rice which now get water-logged.

Minor irrigation works : The Committee has recommended that in implementing the Special Minor Irrigation Programme, the highest priority should be given to the repair and restoration of tanks in the ex-estate areas, particularly those in the Ramanathapuram district which are in need of immediate attention. It has also recommended that in order to actually restore the original ayacut of each tank the work of repair and restoration of tanks should also cover the repair and restoration of the supply channels, field bothies and sluices of the tanks in the case of Government sources of irrigation including those in the ex-estate areas. As regards the maintenance and silt clearance of supply channels, the Committee is of the view that this may be left to be attended to as far as possible by the Panchayats or Panchayat Union Councils trusting that they will take advantage of enabling provisions in Section 85 of the Madras Panchayats Act, 1959. The committee considers that a beginning may be made in the matter of entrusting to the Block Agency the execution and maintenance of minor irrigation works in the Development Blocks. The Committee is of the opinion that the present arrangement under which the Chief Engineer for Irrigation is in charge of Major irrigation sources and the Revenue Department is in charge of small irrigation sources, while the Food Production Engineering branch headed by the Superintending Engineer (Food Production), who is under the control of the Board of Revenue (Food Production), is in charge of renovation of tanks which have been neglected for a long time is working satisfactorily and may be allowed to continue. As the scheme for desilting cum-reclamation of irrigation tanks is still in its trial stage, the Committee considers that it would be continued only at the present pace. It has further recommended that the results of the works already executed and now being executed under it should be carefully watched and that if it is found that these results are encouraging enough, the pace of implementation of the scheme should be accelerated.

The Committee attaches great importance to the improvements of lift irrigation facilities. It considers that the scope of the revised subsidy scheme is very limited and it has therefore recommended that the subsidy for sinking wells should not be confined only to those wells dug under this scheme but that subsidy at the same rate and subject to the same conditions should also be given for new wells dug with the help of other Government loans such as takkavi loans. As the scheme as it stands now may not prove of much assistance to ryots in many areas in this State like the Coimbatore District and the Sattur and Srivilliputhur taluks of the Ramanathapuram district the committee has recommended that the loan ceiling should be raised to Rs. 2,000 per well of which Rs. 500/- may be a subsidy in specified areas. The other recommendations of the Committee on this subject are :— The Filter-point scheme should be continued and intensified; just as a subsidy of 25 per cent is now allowed in the Development Block for sinking filter point tube wells, a similar subsidy subject to a maximum of Rs. 250 per well should be given for sinking filter-point and bore wells in the non-Block areas also; an examination of the potentialities for ground water development by sinking tube wells and filter-points should be made immediately in respect of the entire State on the basis of the past boring records and the performance of the existing tube well pumps and filter-point pumps; the scope for further expansion of the artesian well sinking programme in South Arcot and Tiruchirappalli districts should be explored; the boring equipment now with the Agricultural Department should be improved and augmented; the

river pumping scheme should be continued, the units being run as far as possible as community river pumping units by the existing co-operatives or by co-operatives specially formed for the purpose; and the hiring scheme for pumpsets should be wound up while the Hire-Purchase Scheme for pumpsets should not only be continued but also intensified utilising the co-operative agency for its implementation. The Committee has also recommended that the centage now charged by the Agricultural Department for servicing the pumpsets distributed under the Hire Purchase Scheme may be waived and complete discretion should be given to ryots in the matter of choosing the pumpsets.

Land reclamation: As regards the tractors the Committee has recommended that all the wheel-type tractors owned by the Agricultural Department should be disposed off, that such of them as could not be disposed off may be utilised for running the Tractor Hiring scheme until they become unserviceable, that all the track or chain-type of tractors equipped with bulldozers should be retained and their number increased to the extent necessary and that the Tractor Hiring Scheme should be continued utilising such tractors alone. The Committee has also recommended that the hire Purchase Scheme for tractors should not only be continued but also expanded, that the Government of India should be moved to permit the import of an adequate number of tractors each year to meet the demand from the ryots in full together with a suitable complement of spare parts, that the Government of India may be requested to take steps for the manufacture within the country of a sufficient number of track type tractors with a view to make the country self-sufficient in regard to its requirements of this type of tractors in the near future and that immediate arrangements should be made to import adequate quantities of fast-moving spare parts required by the Government-owned tractors and private owned tractors in this State. The Committee has further recommended the starting of three mobile tractor workshops and the exemption from taxation under the Madras Motor Vehicles Taxation Act of all private tractors and trailers used solely for the owners' personal agricultural purposes and all tractors and trailers owned by the Agricultural Department.

In view of the poor progress so far made in the implementation of the Madras Land Utilisation Order, the object of which is to bring under the cultivation of food crops, any occupied waste or arable land which has been left uncultivated, the Committee has recommended the appointment of a Special Officer of the status of a Collector to attend solely to this work. It has also recommended the appointment of two, two-man teams each consisting of an officer drawn from the Agricultural Department and another officer from the Public Works (Irrigation) Department to make a survey of the waste lands belonging to Hindu Religious and Charitable institutions in this State and draw up schemes within a specified time limit for putting them to the best possible use.

Plant protection: The Committee considers that the present arrangement under which pesticides and fungicides are sold at 50 per cent of the cost price only, in those areas which are declared as pest-affected, by the district agricultural officer concerned is not satisfactory and has therefore recommended that pesticides and fungicides should be sold at a concessional rate in all areas throughout the year. It has also recommended that there should be four mobile pest control units at the rate of one under each Deputy Director of Agriculture.

Agricultural implements: In order to improve the supply position of improved agricultural implements the Committee has recommended that some of the Government workshops of the various Government departments particularly those belonging to the Agriculture, Industries and Public Works Departments, which have a surplus capacity should take up the fabrication of agricultural implements specified by the Agricultural Department. It has also recommended that some of the irrigation workshops of the Public Works Department which have become surplus to the requirements of that Department may be taken over by the Agricultural Department. The opinion of the Committee is that a system of quality control of the agricultural implements produced in this State should be introduced.

Supply of electricity: The Government should give, in the view of the Committee, a subsidy to the State Electricity Board in order to enable it to supply electricity for agricultural purposes to new areas in the under-developed and backward areas of the State expecting only the normal 10 per cent return from the beneficiaries without demanding the special guarantee. Even in the well developed areas in this State, it is understood that if the upper limit of the special guarantee which is at present Rs. 50 H. P., is reduced, large number of ryots will come forward to take up electric supply. To the extent that this maximum limit is reduced the Government will have a subsidy to the State Electricity Board to reimburse to it the loss that will be incurred thereby. The Committee has recommended that the Government should consider by how much it would be feasible and desirable to reduce the upper limit of the special guarantee in the well-developed areas.

Co-operative credit: The Committee has recommended that the pace of development of co-operative credit should be further accelerated and that there should be only one agency for the disbursement of all kinds of loans required by the agriculturists and that this agency should be the co-operative agency. The Co-operative Department has already made a start in this direction by launching its Full Finance Scheme in selected areas in this State. The Committee has recommended that this scheme should be extended to all Development Blocks in this State immediately and to all other areas in this State as soon as possible and in any event by the end of the Third Plan period. In order to ensure that the co-operatives play a much bigger role than that at present in agricultural development, the Committee has recommended that the basic policy which the Government should adopt should be that, all Government aids to agriculturists should be made available only through co-operatives. This policy is to be implemented progressively taking into account the availability of the required number of co-operatives. A Development Block should be taken as the unit for implementing this policy from stage to stage. With a view to ensure the expeditious implementation of this policy, a definite date should be fixed for a group of Development Blocks according to a phased programme for bringing this policy into force in those Development Blocks. Due publicity for the dates so fixed should be given well in advance and it should be announced that on and from the date fixed for each Block all takkavi, medium and short-term loans will be discontinued in that Block. According to the Committee, the objective which the Government should have before them should be to set up at least one multi-purpose co-operative society in each village to serve the local agriculturists as a service co-operative catering to all their cultivation needs like fertilisers, seeds, credit, etc.

The Government have ordered that in the areas in which the Full Finance Scheme is working no takkavi loan should be granted. The Full Finance Scheme will meet only the short term and medium term needs of the agriculturists. As regards long-term credit the loans given by the Land Mortgage Banks alone will not be adequate. The Committee has therefore, recommended that long-term takkavi loans should continue to be granted even in the Full Finance Scheme areas for the purpose of land improvement. The Committee has drawn attention to the fact that the loans that are at present being made available by co-operatives to landless cultivating tenants, marginal cultivators, sub-marginal cultivators, etc., is negligible because of the risk involved in lending to them. It has recommended that short-term loans to the required extent should be granted by co-operatives to these categories of borrowers on the security of the crops raised by them. The Committee has also recommended that the Government should give a guarantee to the financing banks agreeing to make good one half of the loss, if any, incurred by them in cases in which short-term loans given by them on the security of the crops raised by landless cultivating tenants, etc., become irrecoverable on account of failure of crops due to unexpected causes like pest-attack, drought, etc.

Co-operative farming: The Committee has given a brief history of co-operative farming in this State and has pointed out that the idea of co-operative joint farming has been before the country for quite a long time. It has expressed the hope that the proposal for the universal adoption of co-operative joint farming as the future pattern of our country's agricultural will be considered by all concerned dispassionately untrammelled by other considerations and that in effecting the changeover to voluntary co-operative joint farming, the Government will receive the requisite measure of enlightened co-operation from the agriculturists and others interested in stepping up agricultural production. It has also recommended that the Commissioner of Food Production should be designated as the authority for implementing all co-operative farming schemes and that co-operative tenant farming societies should be formed wherever there are large compact contiguous blocks of lands belonging to Hindu Religious and Charitable institutions.

Commercial crops: As the progress in the achievement of the targets of additional production of commercial crops under the Second Five Year Plan has been poor so far, the Committee has urged that vigorous measures should be taken to accelerate the pace of progress in order to achieve the targets in full by the end of the Plan period. It has suggested that the target for the increased production of irrigated groundnut should be stepped up and that a special drive should be launched for coastal planting of cocoanut palms particularly in the districts of Tanjore and Ramanathapuram. The Committee has suggested the raising of the target of increased acreage under cashew fixed for achievement by the end of the Second Plan period and has recommended that a comprehensive tobacco development scheme covering the entire State should be launched very soon. The other recommendations of the Committee relating to Commercial Crops are that every step should be taken to increase the production of fruits to as high a level as possible, greater attention being paid to increasing the production of varieties of nutritious fruits which are already popular with the masses and the prices of which will be within the reach of the common man and also

those varieties of fruits like grapes for developing which the conditions in this State are very favourable; and orchard-cum nursery and horticultural research centre should be established at the Sathanur Project Dam site taking advantage of the facilities available there and the possibility of setting up similar centres in other irrigation dam sites should be investigated.

Agricultural research: The Committee is of the opinion that fundamental research should be accorded a prominent place in the current and future research programmes of the Agricultural Department and that the highest priority should be given to rice research. It has also called for the intensification of research work on pulses in order to evolve improved varieties of strains of pulses largely consumed in this State with a view to put an end to the chronic deficit of pulses in this State and its perpetual dependence on supplies from outside the State. The Committee has pointed out that the present arrangement under which there is only one Crop Specialist for both millets and pulses put together is not satisfactory and has urged the immediate revival of the post of Pulses Specialist which was abolished sometime ago.

Agricultural extension: The Panchayat Union should, in the opinion of the Committee provide the local leadership for implementing the agricultural plans formulated for its jurisdiction and act as the local committee for agricultural development. Each Panchayat Union should be asked to constitute at the earliest opportunity a Committee solely for attending to the work of stepping up agricultural production within its jurisdiction under section 53 (b) of the Madras Panchayats Act, 1958.

The Committee has made various suggestions for the improvement of agricultural extension work, among them being the giving of publicity to the various concessions extended to agriculturists, the utilisation of the Projects as information offices at the sites of the irrigation projects as information centres of documentary films in colour depicting the improved cultivation practices advocated by the Agricultural Department weaving them round simple and appropriate stories and the taking of selected batches of agriculturists at Government cost to Agricultural Research Station, Government Farms and the Farms of Prize-winners in the crop competitions. The Committee has recommended that a District Agricultural Advisory Council should be constituted in each district for reviewing the extension material being put across to ryots in that district. It has also recommended the constitution at the State Level State Agricultural Advisory Board similar to the State Livestock Improvement Board consisting of top ranking officers connected with agricultural development in the State and practical agriculturists of State-wide reputation under the Chairmanship of the Minister for Agriculture.

The Committee has held that the present provision for agriculture and animal husbandry in the Schematic budget of Stage I and Stage II Blocks is very inadequate and should be increased substantially. It has also recommended that the control of the Collector over the Block Development Officer should be made real and effective, that the level of performance of the Block Development Officer in implementing the Agricultural programme in the Block should be made the criterion for

for assessing his efficiency and that inefficient Block Development Officers should be weeded out periodically. Another recommendation of the Committee is that Gramasevaks in each Development Block should be broadly classified into two roughly equal groups called 'Production' and 'Amenities' groups and that the Gramasevaks coming under the former group should exclusively attend to the work relating to agriculture, animal husbandry and co-operation.

The Third Five Year Plan: According to the Committee's assessment the total production of foodgrains in a normal year would have been stepped up from 44 lakhs tons at the end of the First Plan period to 53 lakhs tons by the end of the Second Plan period. When this level of production is attained, the State will be surplus by about 3 lakhs tons in a favourable year while in case the seasonal conditions are adverse there will be a deficit of about 5 to 7 lakhs tons. The aim of the Third Plan should be to establish self-sufficiency even in an adverse year and at the same time allow for an increase in the per capita consumption on the basis of an annual increase in population by about 2 per cent and also provide for a safety margin. The Committee has, therefore, recommended that the State should aim at an achievement of at least an additional production of 20 lakhs tons by the end of the Third Plan period which will represent roughly a 38 percent increase in production. The Committee is confident that such an increase in production is possible if the different aspects of the food production programme are intensified in the light of the recommendations made by it in its report.

[From *The Madras Information*—July 1959.]

College and Estate News.

Lectures: Dr. R. W. Hodgson, Dean of the College of Agriculture, University of California, who is now the Horticulture Consultant to the Indian Agricultural Research Institute, New Delhi addressed the staff and students of the Agricultural College and Research Institute on 3—11—59. On 5—11—59 a lecture on "Task of Horticulturists" was delivered to the members of study group by him. Dr. Weiss, Member, Second Joint Indo American Team addressed the members of study group on 17—11—59.

Foundation Lectures: Dr. V. G. Panse, Statistical Adviser, Indian Council of Agricultural Research delivered lectures on (i) Design of Experiments and (ii) Sample surveys from 12th to 14th November 1959, to the members, staff and students of Agricultural College and Research Institute and Post Graduate Training Institute. Dr. S. K. David, Lecturer in Entomology, delivered the Curzon Endowment lectures for the year 1959-60, the subject being (1) Trends in control practices (2) Social habits of insects on 18th and 19th November 1959.

Literary and Art: Our College won the third prize (by Sri H. Hussain Khan I. B. Sc., (Ag.) in the oratorical contest held by the Coimbatore Rotary Club.

Drama: In the Intercollegiate Dramatic competition (Tamil) held in the P. S. G. College of Technology, our College stood first and won the rolling cup.

Sports and Athletic: Madras University Inter Collegiate sports of the Coimbatore Division was conducted on the Agricultural College grounds on 6th and 7th November 1959 under the presidentship of Sri Hajee P. Kunhammed Kutty, District and Sessions Judge, Coimbatore. In the Inter Divisional Athletics meet held at Madras on 21—11—1959, Sri Gopalakrishna Shenava of III B. Sc. (Ag.), stood first in 400 meters hurdles and second in discuss throw.

Tours: The Post Graduate Trainees of Plant Pathology faculty were on an educational tour from 6—11—59 to 14—11—59 and visited Periakulam, Kodaikanal, Madurai, Kovilpatti, Tirunelveli, Eruvadi and Kanyakumari.

Officers' Club: The 52nd Officers' club day was celebrated on 22—11—59. Dr. Mariakulandai, Principal, Agricultural College and Research Institute and the President of the Officers' Club presided over the function. After the prize distribution by the President to the winners of the club day tournaments, the club secretary Sri R. Subramaniam read out the annual report. With the club day rag and the drama staged by the members, the function came to a close.

Estate Committee: Sri L. Vadivelu, Librarian, A. C. & R. I. has been elected as a member of the Agrl. College Estate Committee.

Award of Research Degree: Sri B. W. X. Ponnaya, Professor of Genetics was awarded the Ph. D. degree by the Madras University for his thesis entitled "Studies on the Genus sorghum".

Our hearty congratulations to him.

Weather Review — for October, 1959.

RAINFALL DATA (IN INCHES)

Division	Station	Total rainfall for the month	Departure from normal	Total since 1st January 1959
North	Madras (Meenambakkam)	12.4	+ 0.4	27.7
	Tirurkuppam*	9.3	+ 0.6	31.6
	Vellore	3.1	— 3.7	22.6
	Gudiyatham*	2.9	— 3.5	22.1
East Coast	Palur*	8.8	0.0	25.5
	Tindivanam*	8.9	+ 1.6	24.2
	Cuddalore	12.3	+ 0.8	26.9
	Nagapattinam	10.0	+ 9.3	26.1
	Aduthurai*	8.3	+ 1.4	17.5
	Pattukkottai*	8.3	+ 1.6	26.2
Central	Salem	9.6	+ 3.2	29.9
	Coimbatore (A. MO.)*	4.6	— 0.8	21.9
	Coimbatore	3.7	— 2.6	17.7
	Tiruchirapalli	6.6	— 0.6	19.7
South	Mathurai	3.9	— 3.5	21.2
	Pamban	3.9	— 4.6	9.0
	Koilkatti*	9.9	+ 4.1	30.0
	Palayamcottai	8.2	+ 1.1	22.4
	Ambasamudram*	6.4	+ 1.7	21.4
	Nagercoil*	2.8	— 3.1	45.2
Hills	Kodaikanal	12.1	+ 1.9	54.8
	Coonoor*	10.8	+ 0.8	38.8
	Ootacamund*	11.6	+ 1.8	48.1
	Nanjanad*	9.2	+ 0.5	71.0

* Meteorological Stations of the Madras Agricultural Department.

The weather continued to be mainly dry for the first three days of the month. On the 4th, an easterly wave moved westwards across the north Andaman Sea and in the following two days accentuated into a shallow depression over the central Bay of Bengal, with the result light rainfall was received in the east coast districts of Madras State. Later, the wet weather was intercepted by a dry spell for two days. From the 9th a feeble cyclonic circulation persisted for three days over the extreme South Peninsula, in the trail of a low in the west central Bay moving inland and there were scattered showers in the central districts. The weather was bright once again for five days from 12—11—59 to 16—11—59. On the 17th, the seasonal low pressure area was establishing itself over the central Bay, of Bengal and on the 19th an easterly wave moved westwards across Madras State, gradually developing into a well marked trough over the east central and south-east Arabian Sea and the adjoining areas. As a result of the above weather conditions, there were scattered showers in all the regions from 17th to 19th and moderate to heavy rainfall in the central and southern districts upto the 24th. Again on the 25th, another fresh low pressure wave, moving westwards, created unsettled weather conditions in the south east Bay of Bengal, concentrating into

a depression 200 miles south-east of Nagapattinam. The depression moved north-east till it became weak four days later. On account of the above trends, there was fairly widespread rainfall in general and rather heavy rainfalls in the coastal and hill regions till the 29th. Once again the weather cleared up with bright days till the end of the month.

Noteworthy rainfalls

No.	Date	Name of place	Rainfall in inches
1.	14—10—1959	Ambasamudram	2.74"
2.	20—10—1959	Koilkatti	2.01"
3.	27—10—1959	Nagapattinam	5.48"
4.	29—10—1959	Ootacamund	3.75"
5.	31—10—1959	Pattukkottai	3.05"

Zonal rainfall (in inches)

Name of the Zone	Rainfall for September, 1959	Departure from normal	Remarks.
North	6.9"	— 1.6	Below normal
East Coast	11.1"	+ 2.5	Above normal
Central	6.1"	— 0.2	Just below normal
South	5.9"	— 0.7	Just below normal
Hills	10.9"	— 1.3	Just above normal

Agricultural Meteorology Section,
Lawley Road Post, Coimbatore-3.
10th November, 1959.

C. B. M., & R. V.

Departmental Notifications

Gazetted Officers—Madras Agricultural Department

Postings and Transfers during the month of November 1959

Name and Designation	Posted or Transferred to
Sri K. Saptharishi, Supdt. A. R. S. Bhavanisagar	Earned leave for 27 days from date of relief
„ S. T. Srinivasan, Asst. in Paddy	Supdt. A. R. S., Bhavanisagar
„ E. V. Abraham, Asst. Entomologist, (Civil Supplies) Salem	Crop and Plant Protection Officer (Entomology) Tanjore

Name and Designation	Posted or Transferred to
Sri T. R. Subramaniam, Crop and Plant Protection Officer (Entomology) Tanjore	Additional Lecturer in Entomology, A. C. & R. I.
„ K. R. Nagaraja Rao, Addl. Lecturer in Entomology, Coimbatore	Asst. Entomologist (Toxicology) Coimbatore
Kumari I. P. Janaki, Asst. Entomologist, Toxicology, Coimbatore	Reverted to Agri. Sub. Service
Sri K. C. Chandy, Asst. Entomologist (Civil Supplies) Tanjore	Do. Do.
„ C. K. Rajagopal, Asst. Agricultural Chemist, Groundnut Storage Scheme, Coimbatore	Addl. Lecturer in Chemistry, Coimbatore
„ D. M. Samuel, Asst. In Chemistry	Asst. Agri. Chemist, Groundnut Storage Scheme, Coimbatore
Smt. C. K. Sowmini Rajagopalan and Kumari A. P. Sarojini Damodaran	Lecturers in Mycology, Coimbatore
Sri K. Rajagopalan, Assistant in Paddy, Coimbatore	Asst. Paddy Specialist for evolution of Superior Saline and Alkaline Resistant Strains of Paddy
„ T. R. Narayanan, Professor of Plant Genetics, R. P. R. I., Coimbatore	Retirement from service on 15-11-1959
„ B. W. X. Ponnayya, Millets & Pulses Spl. Coimbatore	Professor of Plant Genetics R. P. R. I., Coimbatore
„ A. Subramaniam, Assistant. M. S., Coimbatore	Addl. Charge of the post of Millets and Pulses Specialist.
„ T. D. Muthuswami, Asst. Agronomist Lakshmangudi	Cane Development Officer (Training) Sugarcane Res. Station, Cuddalore

Upper Subordinates—Agricultural Department

Postings and Transfers during the month of November 1959

Name and Designation	Posted or Transferred to
Sri K. Mahamad, Assistant In Oilseeds Gingelly Res. Station, Karur	Resignation accepted from date of relief
„ Abubeker Siddiq	Appointed as Asst. in Oilseeds, Gingelly Res. Station, Karur
„ V. Subramaniam, Asst. in Cotton Aduthurai	Cotton Certification Inspector, Srivilliputhur



Review of market conditions of commercial crops in the notified areas of Madras State for the month of October, 1959.

Cotton: In this Section Cotton Kapas: Pothis of 280 lbs.
Lint: Candy of 784 lbs.

Coimbatore District: Season: The rainfall received during the month were fairly wide-spread and beneficial to the standing crops of cotton, Groundnut, Tobacco and also helped in completing the sowings of cotton and also helped in checking the averages of pests and on the standing crops of cotton and groundnut to some extent. Transplantation of Tobacco crop has been delayed in some tracts of Avanashi taluk due to heavy rains.

Arrivals and transaction: (a) Lint: The Tiruppur market started with an opening balance of 10665 candys of Cambodia and 1100 candys of Karunganni lint. The total arrivals into Tiruppur during the months were 7129 candys of Cambodia and 1367 candys of Karunganni which included 1145 candys of Cambodia and 119 candy of Karunganni lint locally ginned. Despatches from Tiruppur were 8100 candys of Cambodia and 1567 candys of Karunganni lint. At the end of the month the market closed with a stock of 9694 candys of Cambodia and 900 candys of Karunganni lint.

The Coimbatore market started with an opening balance of 316 candys of Cambodia and 45 candys of Karunganni lint. There were no arrivals reported in this market. The disposals were amounted to 120 candys of Cambodia and 15 candys of Karunganni lint. The market closed with a stock of 196 candys of Cambodia and 30 candys of Karunganni lint.

The Pollachi market opened with a stock of 386 candys of Cambodia and 47 candys of Karunganni lint. The total arrivals into Pollachi market were 398 candys of Cambodia and 18 candys of Karunganni lint.

The disposals at Pollachi market were 403 candys of Cambodia and 26 candys Karunganni. The market closed with a stock of 381 candys of Cambodia and 39 candys of Karunganni lint.

(b) *Kapas*: The Tiruppur market started with a stock of 13911 pothies of Cambodia kapas and 881 pothies of Karunganni kapas. The total arrivals into Tiruppur market were 17347 pothies of Cambodia and 1128 pothies of Karunganni kapas. The disposals during the month were 19436 pothies of Cambodia and 1986 pothies of Karunganni kapas. The market closed with a balance of 11822 pothies of Cambodia and 23 pothies of Karunganni kapas.

The Pollachi market started with a balance of 4508 pothies of Cambodia and 640 pothies of Karunganni kapas. The total arrivals into this market were 657 pothies of Cambodia and 97 pothies of Karunganni kapas. The disposals were 2214 pothies of Cambodia and 526 pothies of Karunganni kapas. The market closed with a balance of 2951 pothies of Cambodia and 211 pothies of Karunganni kapas.

The Coimbatore market started with an opening balance of 900 pothies of Cambodia and 200 pothies of Karunganni Kapas during the month. The total arrivals into the market were 400 pothies of Cambodia and 100 pothies of Karunganni kapas. The disposals were at Coimbatore market were 800 pothies of Cambodia and 200 pothies of Karunganni kapas. The market closed with a stock of 500 pothies of Cambodia and 100 pothies of Karunganni kapas.

(c) *Prices*: The prices of cotton both kapas and lint that prevailed during the month in Coimbatore District as compared to that of previous month.

<i>Lint.</i>	October, 1959	September, 1959
Cambodia Superior quality	Rs. 901 to 981	900 to 981
Cambodia Average quality	" 800 to 876	800 to 885
Karunganni Superior quality	" 800 to 870	807 to 871
Karunganni Average quality	" 700 to 796	716 to 799
<i>Kapas.</i>		
Cambodia Superior quality	Rs. 126 to 147	122 to 142
Cambodia Average quality	" 110-124-37	110 to 125
Karunganni Superior quality	" 110 to 130	82-50-107
Karunganni Average quality	" 97 to 99	135 to 153
M. C. U. I. Kapas.	" —	135 to 153

Ramanathapuram District: Season: There were fairly heavy and widespread rains during the month throughout the District. The rainfall were reported to be beneficial to the crops.

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The Market Committees' Chronicle

Arrivals and Transactions: The following were the arrivals, disposals and closing stock of kapas and lint in the important markets in the District:

Name of Markets	Opening Stock	Arrivals	Disposals	Closing Stock
(a) <i>Kapas.</i>				
1. Virudhunagar	... 200	9,400	2,600	...
2. Sattur		4,950	4,950	...
3. Rajapalayam	... 12,000	17,000	23,000	6,000
Total	... 12,200	31,350	37,550	6,000
(b) <i>Lint.</i>				
1. Virudhunagar	... 100	1,260	1,280	80
2. Sattur		745	745	...
3. Rajapalayam	... 2,590	1,900	1,800	2,690
Total	... 2,690	3,905	3,825	2,770

The arrivals both kapas and lint were decreased compared to previous month.

(c) *Prices*: The following were the price ranges of both kapas and lint in the markets of the district during the month compared to previous month.

<i>Kapas.</i> (Pothy of 280 lbs.)	October, 1959.	September, 1959.
Karunganni	Rs. 100 to 126	Rs. 108 to 120
Tinny Karunganni	" ..	" 106 to 110
Karunganni IIInd crop	" .. 96 to 115	" 100 to 110
Tinny	" .. 84 to 100	" 75 to 95
Uganda Ist quality	" .. 150 to 170	" 158 to 178
" IIInd "	" .. 116 to 146	" 116 to 150
" IIIrd "	" .. 66 to 125	" 75 to 117
Cambodia	" .. 96 to 130	" 75 to 133
<i>Lint.</i> (Candy of 784 lbs.)		
Karunganni	Rs. 843 to 910	Rs. 820 to 866
Tinny Karunganni	" ..	" 770 to 801
Karunganni IIInd crop	" .. 706 to 866	" 731 to 826
Tinny	" .. 736 to 846	" 690 to 826
Uganda certified	" .. 1,336 to 1,456	" 1,300 to 1,386
Uganda uncertified	" .. 1,010 to 1,100	" N. R.
Cambodia Superior	" .. 900 to 945	" 875 to 960
Cambodia inferior	" .. 845 to 880	" 720 to 1

Cotton Seed. (per 81 maund)

Karungad	...	Rs. 15.18 to 16.02	Rs. 14.83 to 15.27
Tinny	...	.. 15.67 to 16.32	.. 14.03 to 15.67
Uganda	...	.. 10.44 to 11.55	.. 10.76 to 18.55
Cambodia	...	.. 8.64 to 10.44	.. 10.44 to 11.90

South Arcot District: Season: Rains received fairly in all the places of the district during the month.

Groundnut: South Arcot: The arrivals of groundnut decreased the month. Total arrivals into the markets amounted to 2285 tons comprising 2012 tons from district produce 244 tons from other districts like Trichy and Coimbatore etc. Despatches to other places were 605 tons. Consumption by oil mills and chekhuss were amounted to 1596 tons and 407 tons respectively. Wastages were calculated at 111 tons. The stock with the trade at the end of the month stood at 508 tons. The average prices in the several markets ranged from Rs. 174.25 to Rs. 196.90 per candy of 531 lbs according to quality.

North Arcot District: Season: There were wide-spread rains throughout the district and the same was beneficial to the standing crop.

Arrivals and Transactions: The arrivals and disposals of groundnut pods and kernels in the district during the month were as below.

Groundnut pods	Opening Stock	Arrivals	Disposals	Closing Stock
Tons	184.642	107.143	126.785	165.00
in Metric Tons	184.596	108.857	128.813	167.640
<i>Groundnut kernels:</i>				
Tons ...	67.328	615.187	602.293	83.223
in Metric Tons ...	68.405	628.077	611.929	84.553

With the delay in the onset of arrivals from new crop groundnuts as a result of unfavourable weather conditions arrivals were mostly from old crop groundnuts at all centres. However, towards the close of the month, newly harvested winter crop groundnuts in small quantities were brought to market in Arni, Vellore and Thiruvannamalai markets. As a result arrivals and off take of groundnuts at all centres were low.

Prices: The price ranges in the regulated markets in the district for groundnut pods, groundnut kernels and groundnut oils during October 1959 compared to September 1959 were as hereunder.

October, 1959 September, 1959

Groundnut pods (bag of 80 lbs).	Rs. 19 to 22	19 to 22
Groundnut kernels (candy of 531 lbs.)	.. 177 to 207	182 to 207
Groundnut oil (candy of 500 lbs.)	.. 357 to 380	342 to 380

Ramanathapuram District: The arrivals and distribution of groundnut pods and kernels in Virudhunagar market with closing stock were as hereunder:

	Opening Balance	Arrivals	Disposals	Closing Balance
Groundnut pods (in tons) Rs. ...		350	350	...
Kernels .. Rs. 1150		5250	5000	1400

(The arrivals of kernels both from local as well as imports from other district)

Prices: The following were the prices of groundnut and its by products that prevailed during the month compared to previous month.

October, 1959 September, 1959

Groundnut pods (bag of 82 2/7 lbs.)	Rs. 20 to 22	...
Groundnut kernels (candy of 531 lbs.)	.. 165 to 208	Rs. 180 to 210
Groundnut oil (candy of 500 lbs.)	.. 350 to 370	.. 364.20 to 375
Groundnut oil cake (per 81 maund)	.. 13 to 14.01	.. 12.03 to 13.69

Trichirapalli District: Season: There was moderate to heavy rains wide spread in the district during the month and helped the standing crops. The harvest of irrigated crops of groundnut in Karur taluk has come to a close.

Arrivals, Transactions and Prices: The winter crop of groundnut is expected to come into the market of the District only towards the end of November 1959. The regulated markets at Karur has received so far 120 bags and at Jayankondam were 500 bags.

The prices of groundnut and its products however continued to be high. Kernels were quoted from Rs. 183 to 203.

Gingelly: (A bag of Gingelly : 168 lbs.)

South Arcot District: Arrivals continued into the markets. A quantity of 509 bags comprising bags from the district produce 375 bags from neighbouring districts. Despatches to other places amounted to 191 bags. A quantity of 218 bags was crushed for extracting oil. The stock at the end of the month stood at 467 bags.

The average price worked out for all markets Rs. 67.97 per bag of 168 lbs.

Tobacco: (In this section candy of 500 lbs.)

Coimbatore District: Transplantation of tobacco crops has been delayed in some tracts of Avanashi taluk due to heavy rains but was expected to be completed in Avanashi, Coimbatore and Erode taluks before the end of November 1959.

At the end of the month under report, there was a stock of 18600 candys of chewing and 2635 candys of cheroot tobacco. About 1550 candys of chewing and 250 candys of cheroot tobacco were exported to Madurai, Salem, Tanjore, South Arcot, North Arcot and Tuticorin in Madras State and places in Kerala, Andhra and Mysore States. The prices of tobacco showed a slight increase when compared to previous month:

Prices per candy of 500 lbs.

Variety	I Grade		II Grade		III Grade	
	Oct. 59.	Sep. 59.	Oct. 59.	Sep. 59.	Oct. 59.	Sep. 59.
1. Chewing (Sun cured):						
(a) Meenampalayam	450-550	400-510	300-450	300-400	225-300	150-260
(b) Other varieties	355-455	340-430	245-315	240-325	160-235	175-240
2. Chewing tobacco:						
Pitcured grown in Palladam & Sular areas	250-320	250-300	150-225	150-230	80-140	80-145
3. Cheroot tobacco (Suncured):						
Grown in Erode and Bhavani taluks	460-500	330-400	360-450	250-320	250-290	160-290

Cardamom: Madurai District: During the month there was good rainfall in the cardamom plantation areas in Madurai District. Spraying, dusting, pickings and curing of fruits were in progress.

Arrivals of cardamom in the important assembling centres were reported to be good. Despatches were to North Indian States as well as overseas countries.

The following were the estimated arrivals in different assembling markets in the District during the month:

Names of Assembling Markets	Opening Balance	Arrivals	Disposals	Closing Stock
(Quantity in lbs.)				
1. Bodinaickanoor	20,000	3,25,000	30,500	40,000
2. Thevaram	5,000	30,000	29,000	6,000
3. Pannaipuram	3,000	25,000	24,000	4,000
4. Kombai	2,500	20,000	19,500	3,500
5. Uthamapalayam	1,000	16,000	12,000	5,000
6. Cumbum	35,000	10,000	10,000	35,000
7. Gudalur	1,000	5,000	4,000	200
8. Pattiveeranpatti	1,000	55,000	48,000	8,000
9. Virudhunagar	15,000	60,000	55,000	20,000
Total	83,500	5,46,000	5,06,500	1,23,000

Prices: The following were the prices of cardamom in different markets during the month.

1. Pattiveeranpatti:	Price in Rs./n.P. per lb.	
	Sundried.	Store Green.
(1) Superior and Bold	9.12—10.50	9.39—10.65
(2) Medium and Bulk	8.66—10.17	8.70— 9.99
(3) Inferior and small	8.45— 9.41	8.50— 9.48
(4) Seeds	11 —11.41	...
2. Bodinaickanoor:		
(1) Special	9.81— 9.85	
(2) Superior and Bulk	9.51— 9.97	
(3) Medium	8.62— 9.51	
(4) Inferior	8.25— 9.00	
3. Virudhunagar:		
(1) Bold quality	9.87—10.50	
(2) Smalls	8.50— 9.25	
(3) Seeds (Rice)	11.75—12.50	

Prices at Thevaram, Pannaipuram, Kombai, Uthamapalayam, Cumbum, Gudaloor etc., were in consonance with the prices at Cumbam.

**Review of administrative activities of Market Committees
during October, 1959**

The Market Committees of South Arcot, North Arcot, Coimbatore and Trichirapalli confined to function briskly during the month under report. Efforts are being made to revive the Market Committees of Ramanathapuram and Tirunelveli Districts.

Enforcement :

Name of Committee	Section 5 (1)		Section 5 (3)		Weighmen	
	A	B	A	B	A	B
South Arcot Market Committee						
Coimbatore Market Committee	128	1906	73	1411	8	670
North Arcot Market Committee	267	1630	258	1526	73	620
Trichy Market Committee	341	1150	340	1002	306	741

A = Licences issued during the month.

B = " " up to the end of the month.

Meetings : The eleventh meeting of the Tiruchi Market Committee as well as the meeting of the Executive Sub Committee were held on 18-10-1959 in all 29 subjects were disposed off. The seventh meeting of the North Arcot Market Committee was held at Vellore on 24-10-1959 the Budget estimates and other subjects for 1960 were passed.

Quality Analysis : Nil

Quality Competition : Nil



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