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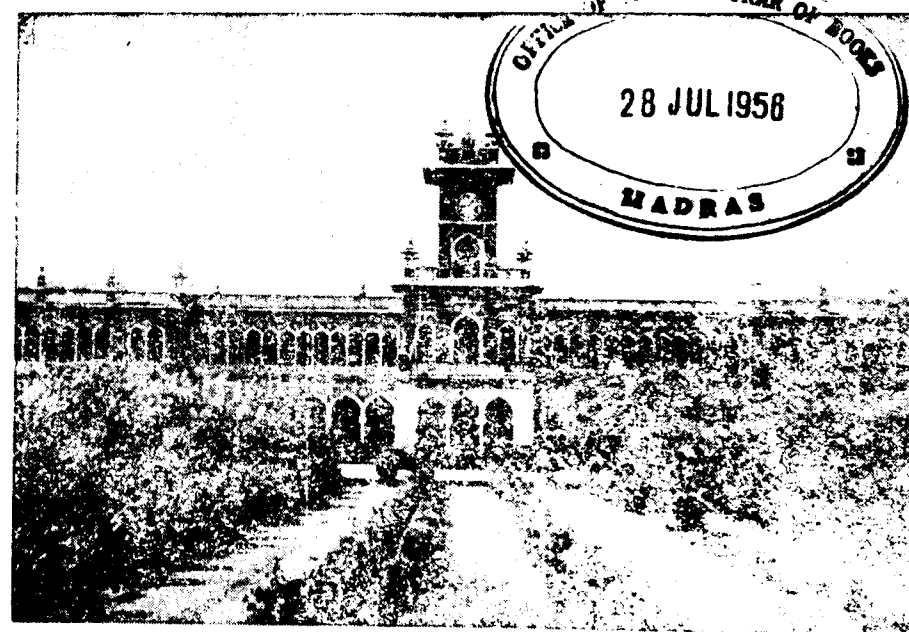
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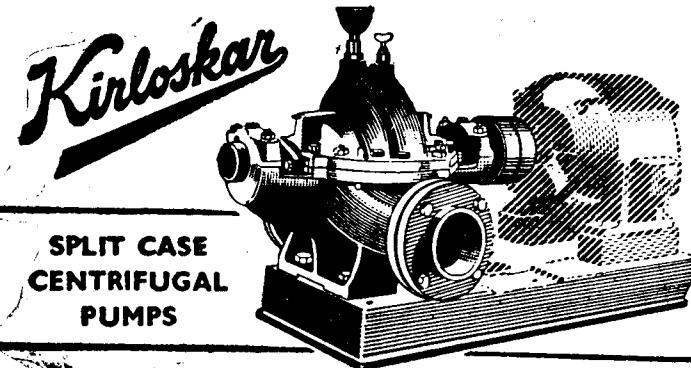
## Announcement

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### THE RAMASASTRULU MUNAGALA PRIZE, 1956

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2. The prize will be in the form of a medal and will be awarded to the member of the Union who submits the best account of research or enquiry, carried out by him on any agricultural subject.
3. The subject matter shall not exceed in length twelve foolscap pages, typewritten on one side.
4. Intending competitors should notify the Secretary of the Madras Agricultural Students' Union, with a covering letter giving the full name and address of the competitor. The author's name should not be shown on the paper, but should be entered as a *nom-de-plume*.
5. Four typewritten copies of the paper should be sent.
6. The name of the successful competitor will be announced and the prize awarded at the time of the College Day and Conference.
7. Paper or papers accepted will become the property of the Union, and the Union reserves to itself the right to publish all or any of the papers.
8. All references in the papers to published books, reports or papers by other workers must be acknowledged.
9. The last date for receipt of papers is 1st July 1956.

**J. Saktharam Rao,**  
Secretary.



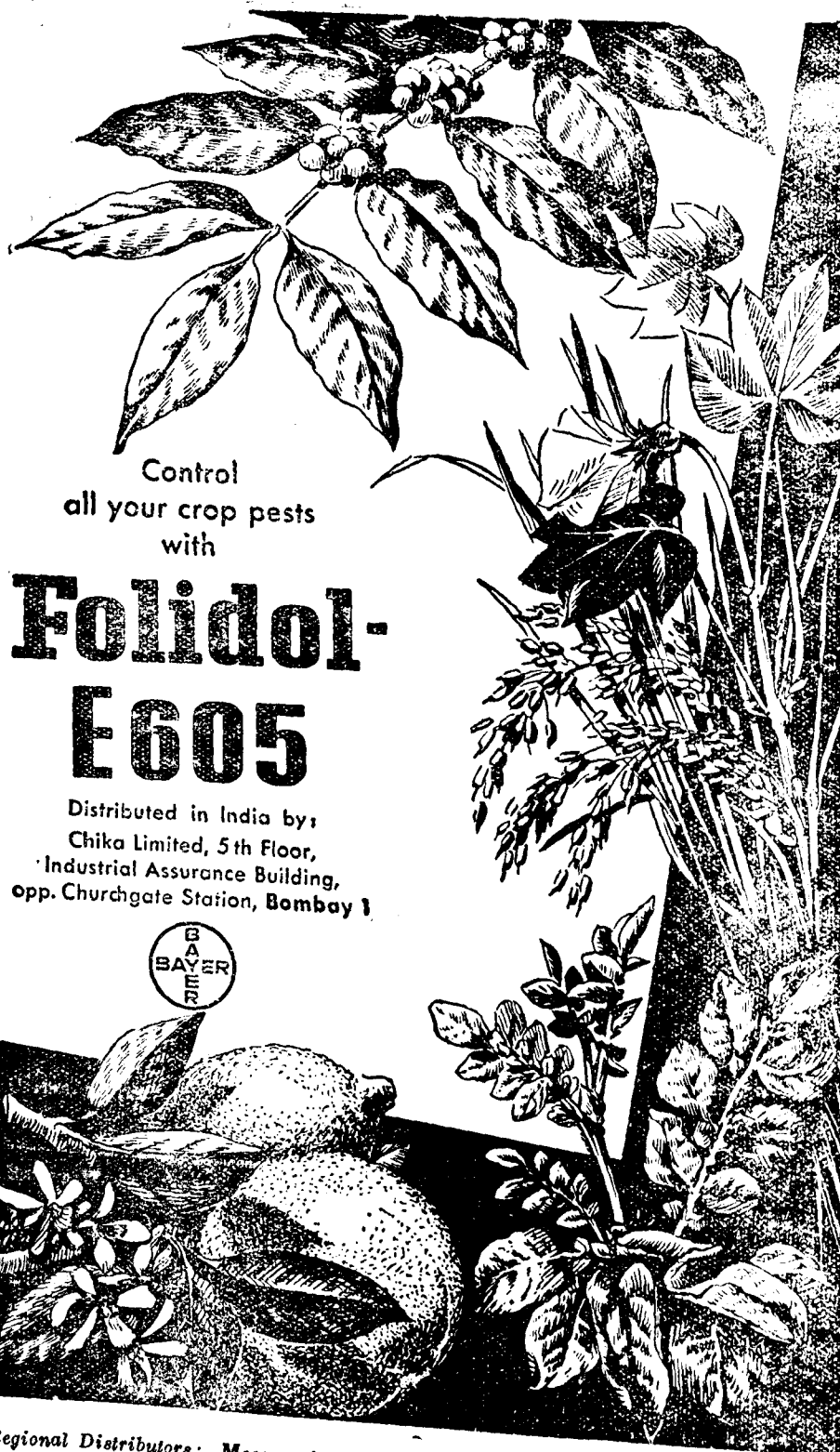
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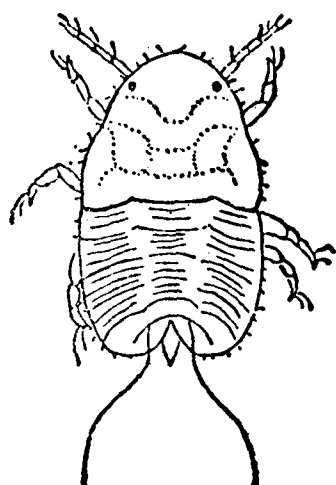
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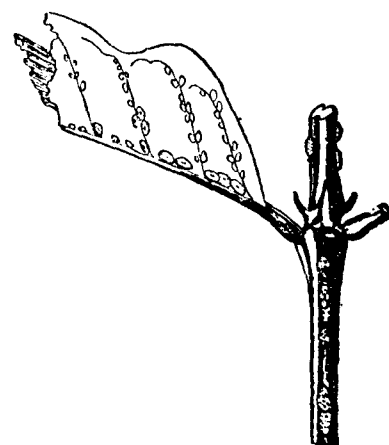
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## RETIREMENT



**SRI R. BALASUBRAMANIAM, B. A., B. SC. (Ag.)**  
Principal, Agricultural College and Research Institute, Coimbatore  
(1953 — 1956)

The most notable event of this month was the retirement of Sri R. Balasubramaniam, from the post of Principal, Agricultural College and Research Institute, which he has been holding with great distinction and success since January 1953. He is succeeded in this post by Dr. K. C. Naik, M. Sc., Ph. D. (Bristol).

Sri R. Balasubramaniam's tenure as Principal is unique in that it was the first occasion when a graduate of this College has held the post of Principal. He was one amongst the first batch of students who were admitted to the newly instituted degree course in 1920, when the old Diploma Course was transformed into a degree course of the Madras University. After passing out of this College in 1923, he joined the Department as a Research Assistant in the Cotton Section and by sheer force of his intellect and industry worked his way up to occupy eventually one of the highest and most coveted posts in our Department. As a research worker in cotton, he can claim several outstanding successes and in fact the major portion of the credit for the high reputation that the Madras strains enjoy amongst Indian cottons should be attributed to Sri R. Balasubramaniam's work. In the field of administration too, he has been equally successful, by bringing to bear upon all problems a happy combination of critical insight and impartial judgment. The Madras Agricultural Students' Union, is particularly indebted to him for the sustained interest and never-failing help that he has been giving all its activities. We feel confident that his knowledge and experience will surely be utilised for many more years in the cause of agricultural research in Madras.

We welcome as his successor Dr. K. C. Naik, who has also had an equally distinguished career in our Department and is held in high esteem as an authority in the field of horticulture. We are sure that under his charge both agricultural education and the future of the Union are in very safe and capable hands.

## PATRONS



SRI S. N. VENKATARAMAN, B. A., B. Sc. (Ag.)

We are happy to welcome Sri S. N. Venkataraman, Retired Headquarters Deputy Director of Agriculture, as one of our new Patrons for this year. The Union is certainly honoured in having him in its roll of patrons, as he is not only one of our oldest members, since 1920, but was also one of the best-known and highly respected officers of the Agricultural Department.

Sri S. N. Venkataraman belongs to the very first batch of B. Sc., (Ag.), students who joined the Agricultural College, in July 1920 when the course was converted from a Diploma course into a degree course affiliated to the Madras University. He was also one of the outstanding students in his batch, distinguished both in studies and in games. After passing out of this college, he joined the cotton section as a research assistant in 1923. It can be rightly said that he was the first man to gain a sound knowledge of statistical methods, many years before the subject was recognised as an essential tool in all agricultural and biological research work. As a research worker in cotton he had a number of publications to his credit. Later on, as Assistant Marketing Officer first and then as the State Marketing Officer he was responsible for a rapid development of the Marketing Section and helped to organise the various Market Committees that are now functioning in different districts for different crops. One of his outstanding contributions in this line was his survey of Cotton Marketing in Madras State. For a few years before his retirement in January 1956 he held the very responsible post of Headquarters Deputy Director of Agriculture and here as in all other fields, he succeeded in being both popular and efficient at the same time.

He was in his college days an all-round sportsman who was particularly good at cricket and football. As a man he was a charming personality, ever smiling and courteous to all who could always command the respect and regard of his subordinates. His love for his Alma Mater and real interest in the Union are well revealed by his becoming a patron of the Madras Agricultural Students' Union, soon after his retirement. We wish him all happiness in his retired life.



SRI C. M. JOHN

The Madras Agricultural Students' Union, is honoured by the recent addition to its roll of patrons, of Sri C. M. John, retired Director, Central Coconut Research Station, Kasargode. He has been closely associated with the Union in all its activities, ever since he joined the Agricultural Department in 1922 as a research assistant in paddy. Rising virtually from the ranks, he became in due course Oilseeds Specialist in 1939 and Principal, Agricultural College, Bapatla in 1947 and later on became the Principal of the Agricultural College and Research Institute, Coimbatore as well. In 1950, his services were lent to the Indian Central Coconut Committee for appointment as Director of the Central Coconut Research Station at Kasargod. He retired from the Agricultural Department in June 1953 and continued as the Director of the Central Coconut Research Station at Kasargode till 1955.

Sri C. M. John is not only a capable research worker, with numerous publications to his credit, but is also a very able administrator, who has a happy knack of getting the best out of every one of his subordinates. As a member of the Madras Agricultural Students' Union, for an unbroken period of more than thirty years, he has served in various capacities in the Union, as Editor, Vice-President, and as President.

We welcome him as our new Patron and feel confident that he will continue to take the same keen interest in the Union as he has evinced all along.

# Studies on *Volvaria diplasia* Berk & Br., The Paddy Straw Mushroom

by

G. RANGASWAMI, PH. D.  
(Institute of Microbiology, Rutgers University  
New Brunswick, New Jersey, U. S. A.)

**Introduction:** Sporophores of some species of the genus *Volvaria*, occurring in nature in the tropical regions, are known to be edible. At least three of its species, *V. volvacea*, (Bull.) Quelet, *V. esculenta* Massee and *V. diplasia* Berk & Br., are reported to be artificially cultivated in some countries of Asia (2, 3, 4, 7, 9, 11, 14). All the three species grow well on rice straw and are popularly known as 'Paddy straw mushroom'. Another closely related species, *V. bresadolae* Trotter, has been reported to grow on decaying pine apple fruits in Palau Island (U. S. A. Trust), Pacific Ocean (6).

It is believed that *V. volvacea* has been under commercial cultivation prior to 1932 in China (2). The natural occurrence of this species in Malaya and the possibilities of its commercial cultivation was reported by Sands in 1935 (9). In 1936 Benemerito (3) described in detail the method of cultivation of *V. esculenta* in the Philippine Islands and Su that of *V. diplasia* in Burma (11). Thomas *et al* (14) were the first to grow *V. diplasia* in Coimbatore, India, and to describe in detail the method of its cultivation. Subsequently Bertus (4) reported successful cultivation of this species in Ceylon and Asthana on the possibilities of growing it in the Central Provinces, India, (1). Cultivation of *V. volvacea* has also been reported from Madagascar and Java by Bouriquet (5) and Reitsma and Hadiwidjaja (7) respectively.

Investigations into the possibilities of improving the yield of *V. diplasia* in straw beds were made by Su (12) and Seth (10). There was no difference in the yields obtained by either inoculating each layer or alternative layers of the bed, whereas increased yields could be obtained by using fresh spawn instead of four-month-old spawn. Increased yields could also be obtained by applying two gallons of water to the bed both in the morning and in the evening and also by adding ground seeds of pigeon pea (*Cajanus cajan* (L.) Millsp.) or chick pea (*Cicer arietinum* L.) to the spawn. Asthana (1) in 1947 also found that when powdered *dhal* (seeds of pigeon pea or chick pea) was not added to the medium the sporulation (sporophore formation) was scanty.

Investigations into some of the factors controlling the development of sporophores of *V. diplasia* in straw beds and the possibilities of increasing the yield of the mushroom were made and also some of the cultural and physiological properties of the fungus in various media studied and the results are reported in this paper.

**Materials and methods:** A fresh isolate of the fungus obtained from an unopened sporophore (button) and subsequently brought into pure culture by single hyphal tip method was used in all these studies. The method of preparation of spawn (inoculum) and cultivation of the mushroom were essentially the same as recommended by Thomas *et al* (14) and deviations, if any, have been indicated in the text. The beds were laid in shaded areas of the greenhouse well protected from wind and rain.

The media used for the cultural and physiological studies of the organism were prepared according to Riker and Riker (8). For plate culture studies 15 ml portions of melted agar medium were poured in 10 cm petri dishes and inoculated in the centre with 4 mm discs of the fungus taken from a week-old culture. The radius and nature of growth of the fungus was recorded after 5-10 days. For liquid culture studies 100 ml portions of the media in 250 ml Erlenmeyer flasks were inoculated with 4 mm culture discs as in plate cultures and allowed to grow for various lengths of time. The dry weight of the mycelium was obtained in the usual manner. Both the plate and liquid culture studies were made in quadruplicate and the average of the results are presented.

**Experimental Results:** *Study of the factors involved in mushroom culture:* In general it is believed that April to June is the best period for the cultivation of this mushroom. In order to obtain some information on the factors involved in this phenomenon two beds were laid every month during 1947 in the recommended manner and the yields of mushroom recorded. The maximum and minimum atmospheric temperature and relative humidity during the period of each culture was also recorded and the results are presented in Fig. 1. The yield of the mushroom was found to be greatly influenced by the minimum temperature and relative humidity rather than the maximum temperature and humidity. The total number of mushrooms obtained from each bed is directly proportional to the total weight of the mushroom, indicating thereby the non-variability of the average size of the mushrooms throughout the year.

It was advocated that the beds should be watered every day either in the morning or in the evening or both times (10, 12). With a view to find out the influence of alternate wetting and drying on the yield, four beds were laid in identical manner and watered at different intervals, the total quantity of water applied to each bed being constant. The experiment was repeated three times during April, May-June and August, 1947 and the average yield recorded (Table I).

TABLE I  
Effect of alternate wetting and drying on the yield of mushrooms

| Treatments                                  | No. of mushrooms per bed | Total Wt./bed (Oz.) | Average Wt. (Oz.) |
|---------------------------------------------|--------------------------|---------------------|-------------------|
| Watering on the first and on the eighth day | 168                      | 119                 | 0.71              |
| Watering once in three days                 | 162                      | 99                  | 0.61              |
| Watering once in two days                   | 140                      | 39                  | 0.64              |
| Watering daily                              | 126                      | 82                  | 0.65              |
| No watering                                 | 0                        | ..                  | ..                |

Watering the beds at longer interval seems to favour sporophore formation. There was no significant difference in the average weight of the mushrooms in different treatments.

According to Su and Seth (13) the average size of a mushroom bed should be approximately  $3\frac{1}{2}' \times 3\frac{1}{2}' \times 2'$  and according to Thomas *et al* (14) approximately  $3\frac{1}{2}$  to 4' cube. Nearly 75 to 100 lb. of rice straw is required to heap such a bed. The possibilities of growing the mushroom in smaller-sized beds was investigated by the following methods:

1. Beds of  $10'' \times 8'' \times 6''$  were laid on wooden planks in the manner recommended for the normal beds and the edges covered with a thin paste of equal parts of cowdung and clay to provide sufficient compactness inside the bed. The surface coating was kept moist by sprinkling water periodically.

2. Beds of  $10'' \times 8'' \times 6''$  laid as above without the surface coating.

3. Beds of  $10'' \times 10'' \times 9''$  laid inside open glass jars of  $18'' \times 10'' \times 10''$  so as to cover only a portion of the area. The beds were kept sufficiently moist and the excess water accumulating at the base was syphoned out periodically.

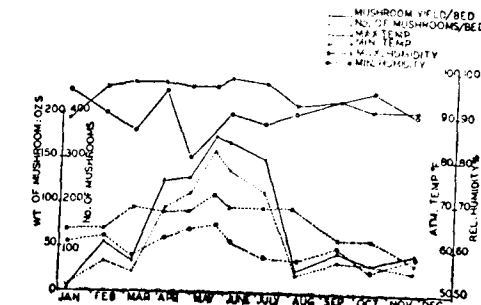


FIG. 1

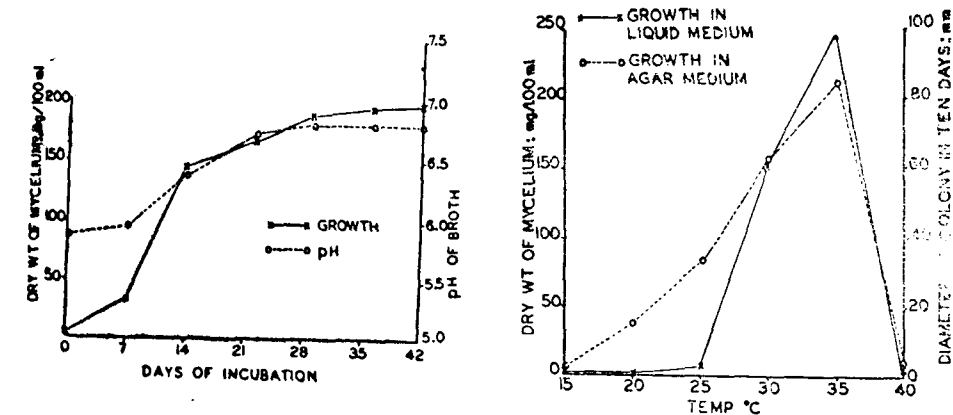


FIG. 2

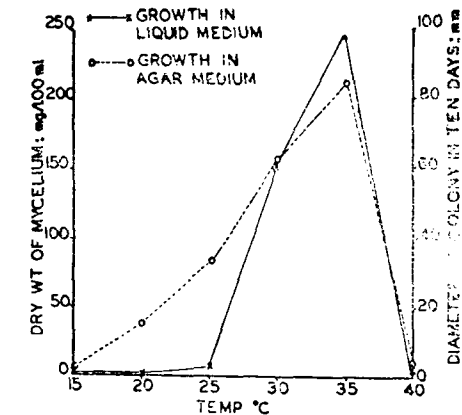


FIG. 3

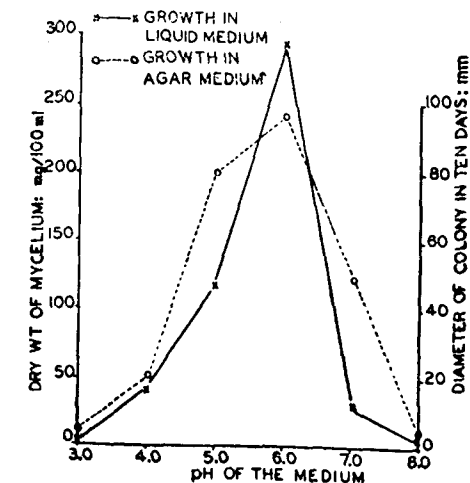


FIG. 4

FIG. 1: Yield of the mushroom during different seasons of 1947 as influenced by atmospheric temperature and relative humidity.  
FIG. 2: Rate of growth of *V. diplasia* in nutrient broth.  
FIG. 3: Influence of pH on the growth of *V. diplasia* in nutrient medium.  
FIG. 4: Effect of temperature on the growth of *V. diplasia* in nutrient medium.

In the first case a few buttons appeared on the surface of the coating after 20 days but none of them developed into normal mushrooms, whereas in the second case a few normal-sized mushrooms developed from below the wooden plank on which the bed was laid but not on the straw layers. The fungal mycelium developed rapidly in the beds laid in glass jars and within 12 days there was normal development of mushrooms (Fig. 7).

*Cultural and physiological properties of V. diplasia:* At present very little is known about the cultural characteristics and nutritional requirements of *V. diplasia* and other species of the genus. The following studies were made to find out a suitable medium and optimum conditions required for growing the fungus in the laboratory and also to understand its capability to utilize different carbon and nitrogen sources.

*Growth on different media:* The cultural characters of *V. diplasia* were studied by growing on different complex organic and synthetic media at pH 6.0 to 6.4. On inoculation the plates were incubated at room temperature (28–32°C) for 7 days and the results recorded (Table II).

TABLE II  
Cultural characteristics of *V. diplasia* on different media

| Medium               | Diameter of colony (mm) | Nature of growth                                                                                                 |
|----------------------|-------------------------|------------------------------------------------------------------------------------------------------------------|
| Nutrient agar        | 49                      | Fairly good growth with colourless submerged hyphae. Greyish-brown pigment produced.                             |
| Potato dextrose agar | 57                      | Soft woolly mycelium, mostly submerged and colourless.                                                           |
| French bean agar     | 53                      | Growth as above.                                                                                                 |
| Richards' agar       | 38                      | Poor growth with thin hyaline submerged, mycelium.                                                               |
| Brown's agar         | 78                      | Very thin growth made of mostly submerged quickly spreading hyaline mycelium.                                    |
| Oat agar             | 49                      | Very thick, whitish, cottony aerial mycelium and colourless thick submerged hyphae. No soluble pigment produced. |
| Carrot agar          | 50                      | Thin colourless mycelium, mostly aerial with few submerged hyphal strands.                                       |
| Corn meal agar       | 73                      | Very good white aerial mycelium and light yellow submerged hyphae. No soluble pigment produced.                  |

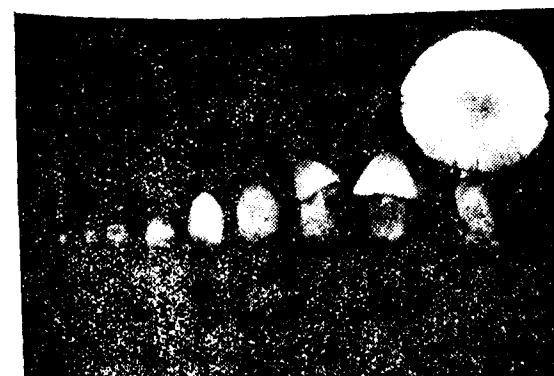


FIG. 5

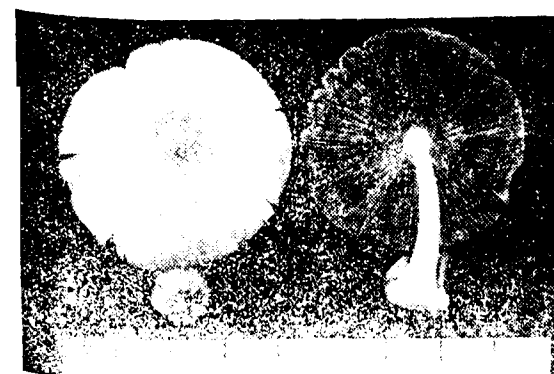


FIG. 6



FIG. 7

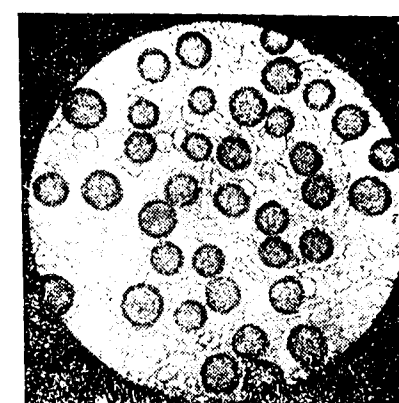


FIG. 8



FIG. 9

FIG. 5: Different stages in the development of sporophores of *V. diplasia*.  
FIG. 6: Fully developed sporophores.

FIG. 7: Development of sporophores in miniature beds inside glass jar.

FIG. 8: Photomicrographs of chlamydospores of *V. diplasia*, (335X).

FIG. 9: Growth and development of chlamydospores (dark growth along the edge and in the center of the medium) of *V. diplasia* in peptone broth.

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*The Madras Agricultural Journal*

The capability of the fungus to utilize starch but not cellulose indicates that some complex metabolic processes are involved in the utilization of rice straw as a carbon source by *V. diplasia*. It is possible that the associative microflora of the straw bed influence the utilization of the nutritive material by the fungus and these microorganisms in turn might be influenced by the climatic factors which are prevalent during certain seasons of the year.

The three species of *Volvaria* viz., *V. volvacea*, *V. diplasia* and *V. esculenta*, are differentiated chiefly on some morphological bases but their habitat seem to be identical and very little is known about their physiological properties. It is believed that a comparative study of their morphological, cultural and physiological properties would result in better knowledge of these useful and economically important species. It would also be advisable to explore the possibilities of introducing the species into other countries, improving their yield by strain selection, induced mutation etc., and growing them on other agricultural waste products.

**Summary:** A study of the factors influencing the sporophore formation of *V. diplasia* in rice straw beds was made. There was some direct correlation between the minimum atmospheric temperature and relative humidity and the yield of the mushroom per bed. Under certain conditions it was found possible to induce sporophore formation in smaller-sized beds and also to increase the yield per bed by altering the spray schedule.

Among the complex organic and synthetic media tested for growing the fungus corn meal and oat agar were found to be most satisfactory, nutrient agar ranking next. The fungus was found to grow well in nutrient medium with a pH reaction of 6.0 around 35°C and to readily utilize starch as carbon source but not cellulose. Peptone was the best nitrogen source for the growth of the fungus even though it could utilize  $\text{KNO}_3$ ,  $(\text{NH}_4)_2\text{SO}_4$  and asparagine to some extent. There was abundant chlamydospore formation by the fungus in oat agar and peptone broth.

**Acknowledgement:** The author wishes to express his appreciation to Messrs. K. M. Thomas, D. Marudarajan and T. S. Ramakrishnan, retired Mycologists, Government of Madras, India, for providing the facilities and for their continued interest in these investigations.

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## A Technical Note on Coir-rope Filter-Points for Tube Wells in the Madras State.

by

Sri B. M. LAKSHMIPATHI, B. E., M. E., M. R. A. S. E.,

**General:** The "drive points" made completely of metal also called "Filter Points" are made in a variety of types and their choice depends upon the soil structure in the water-bearing stratum. Ordinarily an inner mesh of size 60 is used in these drive points. The generally advocated type of filter point is made of G. I. material consisting of a sufficient length of G. I. pipes of about 6 feet length and diameter 3" or 4" with holes not more than 1/2" diameter drilled on it at distances varying from 1" to 1 1/2" centres. These drilled holes are arranged in a staggered manner and their number and size are limited so that the drive point will not lose its strength. This 6 foot G. I. pipe is closely jacketed with a 60 mesh metal cloth of either copper, brass or galvanised iron. This square mesh cloth is again covered over by a brass or G. I. perforated sheeting. Both these metal covers are welded or soldered at the top and at the bottom to G. I. pipe to avoid being torn while driving in the filter point. A solid G. I. tip of slightly larger diameter than the drive point itself, to pierce the soil and which when driven down will open up a passage way for the point, is fitted at the bottom of the filter point. On the top of the filter point, a coupling of the correct diameter is screwed and welded. The approximate cost of a 4" size metal filter point ranges from Rs. 129/- to Rs. 130/-.

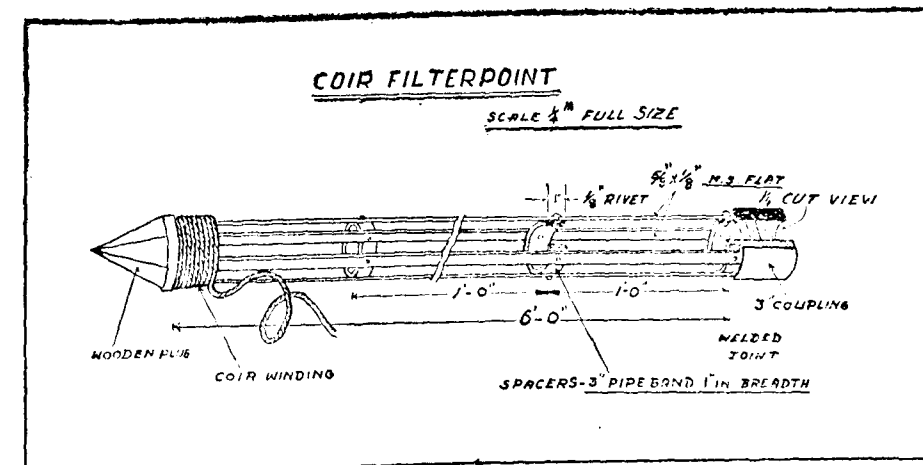
This drive point coupled with the required length of the G. I. pipes is driven down gradually till it reaches the coarse sandy water-bearing stratum and a successful aquifer is met, enabling pumping with this system.

**Object:** The conventional types of filter points are generally used by agriculturists in sinking tube wells for tapping underground water. These fine-meshed filter points are effective in filtering off coarse sand, dirt and sticky mud particles. But when these are driven in layers with very fine sand, dirt and sticky clay, the drive points are not so very permeable and even fail. This is because while the coarse grained layers help keep open the pores and allow the water to flow into the filter point, the fine sand and mud particles stick to the surface and choke the pores on the fine

mesh. In such places, it is necessary to have the filter point cleared every now and then by 'surging'. This is very laborious, difficult and uneconomic to be adopted by an ordinary ryot. It also needs technical skill and an ordinary ryot cannot afford to have ready recourse to such techniques.

In order to overcome these drawbacks the Department had been experimenting on modifications to these metal type filter points so that they can be manufactured at lesser cost and used in any kind of sandy layer without fear of choking.

With the above objects in view the design and manufacture of cheap, efficient and new type of drive points using flat iron and coir rope wound around in place of the G. I. perforated and metal mesh jackets, were taken up by the Department independently of any work of similar nature in other parts of India. Preliminary experiments in the manufacture of such types and field trials have so far been encouraging.



**Fabrication of the Coir Rope Filter-Point:** This type of coir filter point (see figure appended) consists of a cylindrical framework formed by placing six numbers of 6 foot-long mild steel flats of size 1/8" x 5/8" all round at equal distances over 1" wide circular bands of 3" diameter spacers and kept in position either by welding or by rivetting. The number of such spacers is normally 6 for 3" size coir filter points. These circular spacers are rivetted or welded at 1' to 1 1/2' intervals along the length of the cylinder to give shape to the design of the filter point. In rivetting the flats are firmly

fixed over the circular spacers by means of  $1/8''$  m. s. rivets. At the bottom a conical wooden plug is fitted tight with the apex pointing downwards. At top of the filter point a 3" size coupling is fixed rigidly over the top spacer and welded. For coarse sandy strata a single winding with a double twist coir rope strand will suffice, while for fine sandy layers, two windings one over the other are necessary to prevent the entry of fine sand.

The thickness of the coir rope normally used over the filter point frame may be anything between  $3/16''$  to  $1/8''$  or even more, depending upon the size of the filter point it self and the nature of the stratum below.

**Method of installation of the Coir Rope Filter Point:** The coir rope filter-point tube well is installed in the same manner as the metal filter-point tube well. In this process the outer casing pipe is first worked down into the bore with the help of augurs and sand shells and then the coir rope filter point with fittings is lowered to the required depth.

No hammering or twisting of the pipe connections is to be attempted as it will damage the wound coir rope on the filter point. Once the coir rope filter point tube well is embedded in the aqueous layer, the casing pipe is withdrawn. It is advisable to pour in simultaneously with the withdrawal of the casing, coarse sand into the space between the bore and the casing as to form a sandy layer around the coir rope filter point. This will act as a good filtering medium for the coir rope filter-point and also reduce choking of the strainer by fine sand and clay particles, in the initial stages of developing the bore.

**Cost of Fabricating a 3" Coir Rope Filter-Point:** The coir rope filter point is cheaper than the conventional type counterpart. This can be easily fabricated and the approximate cost of manufacturing one 3" coir rope filter point may vary from Rs. 18 to 20.

The manufacturing cost of these coir rope filter-points can be reduced still further when produced in larger numbers.

A few test trials of these coir rope filter-point fitted tube wells with regular metal counterparts in the same bores have shown that the yield obtained from the coir rope filter point tube well is about 10 to 20% more than that obtained from the metal type. This extra yield can thus be attributed to the proportionately

larger pores surface area provided by the coir filter-point for the inflow of the water.

**Observation of other workers on suitability of coir as filters:**

(1) Experiments conducted by Dr. Mackenzie Taylor, Director, Irrigation Research, Punjab P. W. D., on the use of coir as a material for the construction of a tube-well strainer showed that:-

- (i) In coir used as a tube-well strainer which was always submerged in water, there was little deterioration of the filter.
- (2) The submersion of coir in water containing salts in quantities such that it is suitable for drinking and irrigation or having an alkalinity of the order usually met with will not lead to deterioration of the coir at a measurable rate;
- (3) No serious deterioration of the coir need be anticipated in either alkaline or acid waters.
- (4) There is little danger of coir fibre deteriorating when used as a tube-well strainer under the conditions met with in the strata.
- (5) The use of coir rope as a strainer will present an almost continuous filtering surface to the water.
- (6) The effective filtering surface in the case of coir being large and liability of choking less than in the slotted form of strainers the material seems to be most suitable for filtering medium.

**Summary & Conclusion:** From the data obtained so far from the limited number of installations and the observations on coir rope filter point elsewhere it may be summarised as follows:-

In the coir rope filter point the porosity is considerably increased. This type presents a complete filtering medium to the flow of water inside the tube well and thus enables more water to get into the column. The percentage of fine sand passing through this strainer is practically nil. No electro-chemical action is produced, unlike the metal drive points. Incrustation on the surface of the coir rope filter point by lime deposits will be nil as against that on metal strainer. There is no concentration of flow

of water in this type of filter and hence no concentration of the material around it. These coir rope filter points are found to be least affected by the prolonged immersion in underground water and there was very little deterioration even after four years of continued submersion.

The most salient feature in this type is its low cost of manufacture. For, while a coir rope filter - point of 4" size will cost approximately Rs. 25/- to manufacture, a metal type counterpart of factory make will cost anything from Rs. 120/- to Rs. 150/-.

#### REFERENCE

- Dr. E. Mackenzie Taylor, Director,  
Irrigation Research, Punjab PWD. "Report on the use of coir as a material  
for the construction of a tube well  
strainer."

#### ERRATA

(Madras Agricultural Journal: April 1956)

Page 155, Para 4, line 4, read as 5000 lb. of green leaf, 150 lb. of ammonium sulphate and 150 lb of superphosphate,

Page 156, Para 2, under. B. line, 4, for figure 25 lb. read as total Nitrogen 55 lb.

Page 157, Para 1, line 1, add "indicate" after "Results".

#### Research Notes

##### Preliminary Observations on Jassid Injury in Castor

During the main crop season (July to March) in the years 1954 - '55 and 1955 - '56, a number of castor varieties, inbred types and progenies of crosses were in various stages of trial and observation on the Central Farm, Coimbatore. In both the years, the infestation of green jassids (*Empoasca flavescens*) on the castor crop was very severe and in some of the strains and types, the injury was so pronounced that the entire crop presented a blighted appearance. There were, however, a few types which showed marked resistance to the pest. Between these extremes, types showing intermediate grades in the intensity of jassid attack were also observed. This opportunity was availed of in making a careful assessment of the degree of susceptibility of the various types, and strains, etc. to the pest. On the basis of the observations carried out during the two seasons it was found possible to classify the degree of injury by the pest into the following five clearly distinguishable grades.

| Grade of injury                                   | Types                                                               | Extent of injury                                                                                                                                                                                                                                                                              |
|---------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Highly susceptible<br>(Plate I,<br>Fig. 1-TMV. 1) | TMV. 1,<br>Conner, Italy.                                           | Almost entire leaf, especially older leaves, dried and crumpled up or torn off with only a narrow strip of green adjoining the midribs, remaining in some leaves. Younger leaves drying up partly or completely starting from the margin and becoming cup-shaped.                             |
| Susceptible                                       | Israel,<br>Mauthner's dwarf.                                        | Drying of leaves proceeding from the margin or starting in patches on either side of midribs and coalescing together or forming holes. In younger leaves, dry patches alternating with green portion. The green area remaining unaffected on lamina is more than in highly susceptible types. |
| Partially susceptible (Plate I,<br>Fig. 2-TMV. 2) | Cimarron, Baker 1,<br>Baker 195, Hindi<br>(Egypt) TMV. 2<br>strain. | Small, dry spots or patches appearing between veins on either side of midribs, especially on the older leaves. Younger leaves almost free from affection.                                                                                                                                     |
| Resistant                                         | R. C. 913, 1074, 1075,<br>1076, TMV. 3 strain.                      | Nearly free from the leaf symptoms but small dry patches appearing on the older leaves in stray cases.                                                                                                                                                                                        |
| Highly resistant.<br>(Plate I,<br>Fig. 3-EB. 26)  | C. 3 (Pakistan) E.B. 26<br>(Madhya Pradesh)<br>E.B. 31 (-do- -do-)  | Completely free from the leaf symptoms.                                                                                                                                                                                                                                                       |



FIG. 1



FIG. 2



FIG. 3

A view of the entire population of castor in the field suggested that types having leaves with covering of waxy bloom are comparatively more resistant to the jassids (the resistance increasing with the intensity of bloom) than those having leaves without bloom. From the behaviour of the progenies in this regard there is reason to believe that susceptibility to jassid attack may be an inherited character.

These observations will be followed up in greater detail and over a larger range of material and populations for confirmation.

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K. A. SESHU.

### A Mutant Form of Groundnut

In a routine comparative trial of groundnut selections laid out during the monsoon season (July to December of 1955) in the Central Farm, Coimbatore, the authors happened to notice a peculiar form of groundnut in one of the plots of the semi-spreading pure-line A. H. 6615 which is an extract from a cross between 'Spanish Bombay' and 'Native Tanganiyika'. This plant was characterised by a very short stature and abnormally large leaves. A brief type description together with a photograph of the plant is furnished below.



"Habit of growth. - Bunch, with feeble branching; stem - thick, sparsely hairy; light-green tinged with purple; leaflets - very large (8.6 cm x 4.2 cm), oblong-elliptic, green with elliptic, green with light mottling of greenish yellow, a tendency to droop, late flowering (55 days as against 30 days of ordinary type); flower - large orange yellow, papilionaceous; gynophore - thick, purple; pods-large 1 to 2 seeded, distinct beak and veins, shallow constriction, thick shell; kernels - big, rose, oblong, somewhat plump; duration - long (135 days)".

John and others (1954) in their classification of groundnut varieties and forms have described five varieties and twenty-three forms. But the form now spotted out by the authors differ from them not only in its very short stature but also in its abnormally large leaflets which show a tendency to droop and exhibit a greenish-yellow mottling. Considering these peculiar features not already described and classified by previous workers, the authors are inclined to give it the status of a new form of groundnut. As this has occurred spontaneously among other groundnut varieties and forms grown at Coimbatore during 1955 monsoon season, it is presumed to be a mutant.

As the breeding behaviour of this plant and its cytological constitution are not known, it is too early to predict its use in future breeding work. Since the plant has produced only a few pods, estimation of its seed dormancy, oil content, etc. has not been possible. Only when its breeding behaviour and other economic features are known can its future utility be assessed. At present this new form of groundnut is only of academic interest.

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#### REFERENCES:

C. M. John et. al.

(1954) Varieties and forms of groundnut their classification and economic characters - Indian Journal of Agricultural Science, Vol. XXIV, 4.

#### Selected Article

### The Tamarind is Prized for its Shade and Shelter

by

M. D. CHATURVEDI

There are few trees that can equal the tamarind in its generous spread of crown which provides shade and shelter against a tropical sun.

Cultivated widely for its shade and fruit, the tamarind is not a tree of the forest. It occurs freely throughout the country except in the extremely dry western zone. Indigenous to Abyssinia and Central Africa, the tamarind came to be introduced in India (probably by the Arabs) long ago.

Prized for its shade, the tamarind is frequently planted in roadside avenues. Stately tamarind avenues dating back to the days of the Nawab Viziers of Oudh are still to be seen along the arterial roads in Uttar Pradesh.

The tamarind is one of the longest-lived trees. It was for this reason that it was accorded special recognition in mausoleums and in graveyards throughout North India. An avenue in Fyzabad planted by Shuja-ud-Daula in 1765 is still thriving, good and green. A tamarind tree at Kara (Gaya) which measured eight feet in diameter was reported by A. E. Wild. The tamarind attains a height of about 100 feet and a crown spread of 30 to 40 feet.

Growing as it does, throughout the country, the tamarind *Tamarindus indica* is known by various names: *Imli* (Hindi); *Hunase* (Kanarese); *Chinch* (Marathi); *Puli* (Tamil); *Chinta* (Telugu); *Pulinje* (Coorg).

The tamarind is an evergreen tree. In excessively hot and dry regions, it becomes leafless only for a short while. The leaves have a feathery pattern, each tiny leaflet being about half an inch long. The new leaves appear during March-April. The small yellow and red flowers are in evidence throughout the summer. The pods appear during winter and ripen in the Spring (February-March).

**Propagation:** Individual pods contain about a half a dozen (three to ten) dark-brown, smooth, and compressed seeds covered with an acidic pulp widely used in Indian cookery and indigenous medicine.

The seed germinates well and yields a high plant percentage. By far the best method to raise tamarind seedlings is to sow seed during April in one's vegetable garden in the backyard. The seedlings should be transferred to deep baskets, making an allowance for their long tap-roots, before the onset of the cold weather. These basket plants should be carefully protected from frost during winter and from drought during summer. At the beginning of the following monsoon they should be put out where required.

The tamarind thrives best in deep loamy soils providing optimum conditions for the development of its long tap-root. The tamarind manages to eke out a precarious existence even in the rocky soils of Chota Nagpur and persists along roadsides in Hyderabad State.

Young plants are very frost-tender and throughout the winter need protection; this can be provided best by covering individual seedlings with a cape made out of grass. Although they can stand drought better than frost, it would be best to water the young tamarind plants during their first two summers. The plots should be kept free of weeds. The soil should be hoed at least twice during the winter.

Special protection should be afforded against domestic animals by raising a live hedge of babul all round individual plants when put out in the open.

**Uses:** The tamarind tree, although comparatively difficult to establish, provides shade, shelter and fruit for 200 to 300 years. It is one of the nicest shade trees for threshing floors, because under its heavy shade, the floor is always clean, and free of all undergrowth.

The wood is hard and close-grained and is used in making agricultural implements, rice pounders, oil mills, and household furniture of all sorts. It yields excellent charcoal which was very much in demand for producer gas units fitted on trucks and cars during the war.

The pod is much in demand for its acidic pulp used in cooking and indigenous medicine as an astringent and aperient.

The seeds yield starch which was very largely used as a sizing material during the World War II according to a process developed at the Forest Research Institute, Dehra Dun.

[Indian Farming, 5. p. 16.]

## Weather Review — For April, 1956

RAINFALL DATA (IN INCHES)

| Division   | Station                | Total rainfall for the month | Departure from normal | Total since 1st January | Division   | Station        | Total rainfall for the month | Departure from normal | Total since 1st January |
|------------|------------------------|------------------------------|-----------------------|-------------------------|------------|----------------|------------------------------|-----------------------|-------------------------|
| North      | Madras (Meenam-bakkam) | 1.5                          | + 0.9                 | 2.8                     | South      | Madurai        | 1.0                          | — 1.2                 | 2.4                     |
|            | Tirur-kuppam*          | 1.4                          | + 0.7                 | 2.7                     |            | Pamban         | 0.6                          | — 1.2                 | 1.2                     |
|            | Vellore                | 0.4                          | — 0.6                 | 1.3                     |            | Koilpatti*     | 1.9                          | — 1.6                 | 3.1                     |
|            | Gudiyatham*            | 0.4                          | — 0.6                 | 0.9                     |            | Palayam-cottai | 0.2                          | — 2.3                 | 3.6                     |
|            |                        |                              |                       |                         |            | Amba-samudram* | 0.2                          | — 3.7                 | 4.7                     |
| East Coast | Palur*                 | 1.2                          | + 0.1                 | 2.3                     | West Coast | Trivandrum     | 5.5                          | + 0.9                 | 7.0                     |
|            | Tindivanam*            | 1.2                          | + 0.2                 | 2.7                     |            | Fort Cochin    | 12.0                         | + 7.1                 | 16.7                    |
|            | Cuddalore              | 1.2                          | + 0.2                 | 1.9                     |            | Pattambi*      | 4.4                          | + 1.3                 | 5.5                     |
|            | Naga-pattinam          | 0.3                          | — 0.8                 | 2.9                     |            | Kozhikode      | 7.1                          | + 2.2                 | 8.9                     |
|            | Aduthurai*             | 0.9                          | — 0.3                 | 3.0                     |            | Taliparamba*   | 3.3                          | + 0.4                 | 3.3                     |
| Central    | Pattukottai*           | Nil                          | — 2.5                 | 2.6                     |            | Wynaad*        | 6.2                          | + 1.2                 | 7.3                     |
|            | Salem                  | 0.7                          | — 1.2                 | 1.1                     | Hills      | Nileshwar*     | 4.9                          | + 1.9                 | 4.9                     |
|            | Coimbatore (A. M. O.)* | 1.7                          | — 0.8                 | 1.8                     |            | Pilicode*      | 3.0                          | — 0.4                 | 3.0                     |
|            | Coimbatore             | 1.6                          | J. N.                 | 1.7                     |            | Mangalore      | 1.7                          | — 0.2                 | 1.7                     |
|            | Tiruchirappalli        | 1.3                          | — 1.1                 | 1.8                     |            | Kankanady*     | 1.6                          | — 0.5                 | 1.6                     |
|            |                        |                              |                       |                         |            | Kotekar*       | 2.4                          | + 0.8                 | £                       |
|            |                        |                              |                       |                         |            | Kodaikanal     | 6.3                          | + 1.5                 | 9.6                     |
|            |                        |                              |                       |                         |            | Coonoor*       | 4.0                          | — 2.0                 | 6.7                     |
|            |                        |                              |                       |                         |            | Ootacamund*    | 5.4                          | + 0.7                 | 5.6                     |
|            |                        |                              |                       |                         |            | Nanjanad*      | 3.6                          | — 1.5                 | 3.8                     |

Notes:— 1. \* Meteorological Stations of the Madras Agric. Dept.

2. J. N. = Just normal.

3. £ = It is a new station. Rain gauge was installed only in March 1956.

The month began with dry weather and sub-normal day temperatures in Tamilnad. This sort of weather prevailed in the first three days except for a very light shower at Shimoga in Mysore. On 4-4-1956 localised showers were received in Travancore-Cochin. Scattered thundershowers were received in Travancore-Cochin State, south Tamilnad and Malabar-South Kanara on 5-4-1956. On 6-4-1956 showers were fairly widespread in Travancore-Cochin and at a few places in interior Tamilnad. Thundershowers became localised on 7-4-1956 in Tamilnad. From 8-4-1956 to 13-4-1956 fairly widespread thundershowers, on some days of a highly localised nature, were received in Travancore-Cochin and at a few places in Tamilnad, invariably in the south. For four days from 14-4-1956 the weather was mainly dry except for very light localised rains in Mysore and at Alleppy. On 18-4-1956 scattered thundershowers were received in Malabar-South Kanara and elsewhere the weather was dry. Localised thundershowers were received on 19-4-1956 in Mysore and at a few places in Travancore-Cochin and adjoining districts of Tamilnad. On 20-4-1956 the weather was dry throughout. A few places in interior Tamilnad and Travancore-Cochin had showers on 21-4-1956. In the next two days localised light thundershowers were received in Travancore-Cochin and at a few places in Tamilnad. On 24-4-1956 a few places in Travancore-Cochin and Mysore had some thundershowers. For four days from 25-4-1956 localised thundershowers were received in Travancore-Cochin, Malabar-South Kanara and Tamilnad. A cyclonic storm of small extent developed in the west central Bay of Bengal on 29-4-1956 at 08.30 hours, about 120 miles east of Nellore. Under its influence widespread heavy rain, with locally very heavy falls, occurred in Travancore-Cochin, Malabar-South Kanara and Tamilnad. Next

day i. e. on 30-4-1956 this cyclonic storm weakened into a depression centred at 08.30 hours, about 50 miles south of Gadag. Due to this depression widespread, with locally heavy, rains were received in Malabar-South Kanara and Travancore-Cochin.

In the month under report Salem recorded the highest maximum temperature of 104° F on 8-4-1956 and 9-4-1956 and Palghat had 105° F and 104° on 15-4-1956 and 16-4-1956 respectively. Due to sub-normal rains the severity of summer was felt throughout the State with the exception of a few hill stations and portions of the West Coast.

The noteworthy rainfall and the zonal rainfall in inches are furnished below:—

| Noteworthy Rainfalls |            |                     | Zonal Rainfall |                        |                       |                   |
|----------------------|------------|---------------------|----------------|------------------------|-----------------------|-------------------|
| Date                 | Place      | Rain-fall in inches | Name of Zone   | Rainfall for the month | Departure from normal | Remarks           |
| 11/4/56              | Alleppey   | 4.0                 | North          | 0.9                    | + 0.1                 | Just above normal |
| 29/4/56              | Cochin     | 6.0                 | East Coast     | 0.8                    | — 0.5                 | Below normal      |
| do                   | Trivandram | 4.0                 | Central        | 1.3                    | — 0.8                 | do                |
| do                   | Punalur    | 3.0                 | South          | 0.8                    | — 2.0                 | Far below normal  |
| 30/4/56              | Kozhikode  | 3.0                 | West Coast     | 4.7                    | + 1.3                 | Above normal      |
| do                   | Mangalore  | 2.0                 | Hills          | 4.8                    | — 0.3                 | Just below normal |

Agricultural Meteorology Section,  
Lawley Road P. O.,  
Coimbatore, 11-5-1956

C. B. M. & M. V. J.

### Departmental Notifications

#### Gazetted Service—Postings and Transfers

| Name and present post                                             | Posted as                                                     |
|-------------------------------------------------------------------|---------------------------------------------------------------|
| Dr. C. K. Naik. Headquarters Dy. Director of Agriculture, Madras. | Principal, Agrl. College & Research Institute, Coimbatore.    |
| Krishna Pillai N., D. A. O. Coimbatore.                           | D. A. O. Tellicherry.                                         |
| Thandavarayan K., Supdt. A. R. S. Aduthurai.                      | Addl. Supdt. C. F. Coimbatore.                                |
| Parthasarathy S. V., Sugarcane Specialist, Palur.                 | Sugarcane Agronomist, Indian Inst. of Sugarcane Res. Lucknow. |
| Radhakanth P. K., Asst. Agrl. Eng. on leave.                      | Asst. Agrl. Eng. (Mechanical) D. A's. Office, Madras.         |
| Seshadri C. R., Oil Seed Specialist, Coimbatore.                  | Headquarters Dy. Director of Agrl., Madras.                   |
| Varisai Muhamad S., Addl. Supdt. Coimbatore.                      | Asst. Oil Seed Specialist, Pollachi.                          |

#### DISTRICTS

S. ARCOT, COIMBATORE  
MALABAR, S. KANARA  
RAMANATHAPURAM  
TIRUNELVELI  
NORTH ARCOT



#### CROPS

COTTON, GINGELLY  
GROUNDNUT  
COCONUT  
ARECANUT  
TOBACCO

### Review of Market Conditions of Commercial Crops in the areas of Market Committees for April, 1956.

#### I. Cotton : ( In this section : Candy = 784 lb. Pothi = 280 lb. )

**Cotton Stocks : Tirupur : Lint :** At Tirupur during the month the lint market opened with a stock of 3636 edys of Cambodia and 629 edys of Karunganni. Arrivals during the month amounted to 13,143 edys of Cambodia and 501 edys of Karunganni lint inclusive of 4106 edys of Cambodia and 210 edys Karunganni lint produced by ginneries. Despatch from Tirupur accounted for 12,792 edys of Cambodia and 379 edys of Karunganni lint. These despatches include 2370 edys of lint sent to Bombay, Travancore-Cochin State, Mysore, Oriesa, Madurai, Tirnelveli, Salem, Chingleput, Tiruchirappalli, Tanjore and North Arcot. The month closed with a stock of 3986 edys of Cambodia and 751 edys of Karunganni lint at the end of the month.

**Kapas :** The kapas market at Tirupur opened with a stock of 17,636 pothis of Cambodia and 1978 pothis of Karunganni kapas. During the month 91,600 pothis of Cambodia and 11,659 pothis of Karunganni kapas arrived into the market. These arrivals include 12,204 pothis of kapas received from Salem. Out of the total, 70,969 pothis of Cambodia and 9510 pothis of Karunganni kapas were disposed, and there was a closing stock of 38,267 pothis of Cambodia and 4127 pothis of Karunganni kapas at the end of the month.

**Koilpatti : Lint :** The market at Koilpatti started with a stock of edys of Karunganni lint. During the month about 300 edys of Karunganni lint were received, out of which 250 edys of Karunganni lint were disposed off locally leaving a closing stock of 83 edys of Karunganni. There was no stock of Uganda.

**Kapas :** The kapas market at Koilpatti started with a stock of pothis. About 4000 pothis were received during the month, out of

which 3000 pothis were ginned and disposed off, leaving a closing stock of 1500 pothis.

**Ramanathapuram District: Lint:** The markets of Virudunagar, Sattur, and Rajapalayam put together opened with stock of 265 cdys lint while the arrivals were 3950 cdys. Disposals during the month amounted to 3850 cdys, leaving a closing stock of 365 cdys at the end of the month.

**Kapas:** During the month the three markets opened with no stock. Arrivals during the month amounted to 34,500 pothis out of which 32,800 pothis were disposed off, leaving a closing stock of 1700 pothis during the end of the month.

**South Arcot District: Kapas:** The kapas market started with an opening stock of 16 pothis and only 2 pothis of kapas were received during the month. All the 18 pothis of kapas in stock were despatched to Coimbatore, with nil stock at the end of the month.

**Cotton prices: Tiruppur: Lint:** The prices of lint were ruling at about the ceilings fixed.

**Kapas:** The price of kapas was also firm.

**Koilkatti: Lint:** Prices of Karunganni lint opened at Rs. 830/- to Rs. 856/- per cdy for best quality, and gradually increased to Rs. 845/- to Rs. 856/- at the middle of the month. The prices finally closed firm at Rs. 850/- to Rs. 865/- at the end of the month.

**Kapas:** During the month prices of Karunganni kapas ruled firm at Rs. 105/- to Rs. 115/- per pothi for average quality.

**Ramanathapuram: Lint:** The opening and closing values of cotton lint per cdy in all the markets in the district ruled as hereunder.

|            |     | Opening:    | Closing:    |
|------------|-----|-------------|-------------|
| Karunganni | ... | Rs. 820—846 | Rs. 835—846 |
| Tinny Lint | ... | Rs. 806—820 | Rs. 800—820 |

**Kapas:** The opening and closing prices of kapas per pothi in all the markets ruled as follows:

|            | Opening:   | Closing:   |
|------------|------------|------------|
| Karunganni | Rs. 88—106 | Rs. 92—106 |

**South Arcot: Kapas:** The average price obtained in the market was quoted at Rs. 87—6—0 per pothi.

**II. Cotton Seeds: Koilkatti:** The prices of Karunganni seeds opened at Rs. 35/- to Rs. 37/- per pothi and closed at Rs. 33/- to Rs. 35/- per pothi at the end of the month. The decline in prices is due to moderate arrivals in the market.

**Ramanathapuram:** The opening and closing prices of cotton seeds were as follows:

|                                | Opening:             | Closing:                                        |
|--------------------------------|----------------------|-------------------------------------------------|
| Karunganni }<br>Cotton Seeds } | Rs. 9-12-0 to 10-0-0 | Rs. 10-0-0 to 10-12-0<br>(per Maund of 82½ lb.) |

**III. Groundnut:** (Candy = 531 lb. of kernels. Bag = 80 lb. of pods).

**South Arcot:** The opening stock, arrivals into the market from other districts and States, disposals and closing stock with trade, markets etc., were as hereunder.

|                                                                                  |     |            |
|----------------------------------------------------------------------------------|-----|------------|
| Opening Stock                                                                    | ... | 5491 tons. |
| Arrivals into the nine Market Yards                                              | ... | 737        |
| Receipts from other districts                                                    | ... | 580        |
| Imports from other States like Andhra                                            | ... | 152        |
| Consumption by oil mills and country }<br>chekkus in the district respectively } | ... | 2520       |
| 2332 and 188 tons                                                                |     |            |
| Despatches to other districts like }<br>Madras and Tanjore }                     | ... | 494        |
| Exports to other States like Pondicherry                                         | ... | 74         |
| Closing stock                                                                    | ... | 3872       |

The average prices in the several markets ranged from Rs. 142—12—0 to Rs. 159—9—0 per candy according to quality of the produce.

**North Arcot:** During the month 814 tons of groundnut kernels were received, out of which 351 tons were despatched to other market centres like Madras, Coimbatore, Salem and Chingleput. At the end of the month there was a stock of 1885 tons of pods and 1514 tons of kernal with the merchants.

The prices of kernel ruled at Rs. 158/- to Rs. 160/- per cdy while the pods were quoted at Rs. 15/- to 19/- per bag.

**Ramanathapuram:** The opening and closing rates of groundnuts in all the markets of the district are quoted as follows:

|                   | Opening:    | Closing:               |
|-------------------|-------------|------------------------|
| Groundnut pods    | ...         | N. A.                  |
| Groundnut kernels | ...         | N. A.                  |
|                   | Rs. 160—170 | Rs. 150—170 per candy. |

| (Price in Rs. per cwt.) |     |           |         |         |
|-------------------------|-----|-----------|---------|---------|
|                         |     | Minimum   |         | Maximum |
| Koka                    | ... | Rs. 75    | Rs. 110 |         |
| Choor                   | ... | No stock. |         |         |
| Malabar Supari          | ... | „ 122     | „ 145   |         |
| Mangalore „             | ... | „ 135     | „ 160   |         |

#### VII. Tobacco: (In this section: Cdy = 500 lb.)

**Stocks:** The tobacco market started in Tirupur with an opening balance of 3555 cdy of chewing tobacco. About 50 cdy of beedi tobacco was reported to have been imported during the month. Despatches in the month amounted to 950 cdy chewing variety to places like Palghat, Travancore - Cochin State, Andhra, Tanjore, Tiruchirapalli, North Arcot, South Arcot, Chingleput and Madurai. At the end of the month there was a closing stock of 6280 cdy of chewing tobacco and 1400 cdy of cheroot tobacco.

**Prices:** The prices of different varieties of tobacco of several grades ruled at the ranges furnished below:

( Prices in Rs. per cdy of 500 lb. )

#### 1. Chewing Tobacco, Sun-cured:

|                 |     | I grade   | II grade  | III grade |
|-----------------|-----|-----------|-----------|-----------|
| Meenampalayam   | ... | 300 — 400 | 200 — 300 | 110 — 200 |
| Other varieties | ... | 295 — 355 | 200 — 275 | 115 — 160 |

#### 2. Cheroot varieties.

|                                                |     |           |           |           |
|------------------------------------------------|-----|-----------|-----------|-----------|
| Sun-cured (grown in Erode and Bhavani Taluks.) | ... | 350 — 450 | 250 — 350 | 150 — 220 |
|------------------------------------------------|-----|-----------|-----------|-----------|

#### 3. Chewing varieties:

|                                                |     |           |           |           |
|------------------------------------------------|-----|-----------|-----------|-----------|
| Pit-cured (grown in Palladam and Sulur areas.) | ... | 250 — 350 | 175 — 250 | 100 — 150 |
|------------------------------------------------|-----|-----------|-----------|-----------|

### Review of the Activities of the Market Committees during April 1956

All the Market Committees continued to function during the month. Except the Coimbatore Market Committee which is functioning under an elected body all the other Market Committees are working under their respective Collectors or his nominees under Section 6A of the Act. Necessary steps are continued to be taken to conduct fresh elections of these Committees.

The following progress was made by the Market Committees in the issue of licenses under the provisions of the Act.

|                                 | Section 5 (1) |     | Section 5 (3) |      | Weighmen |     | Broker |   |
|---------------------------------|---------------|-----|---------------|------|----------|-----|--------|---|
|                                 | A             | B   | A             | B    | A        | B   | A      | B |
| North Arcot Market Committee    | 39            | 560 | 55            | 418  | 41       | 233 | —      | 3 |
| South Arcot Market Committee    | 111           | 999 | 82            | 892  | 86       | 826 | —      | 3 |
| Coimbatore Market Committee     | 130           | 404 | 124           | 443  | 232      | 550 | 1      | 4 |
| Tirunelveli Market Committee    | —             | 3   | —             | 1    | —        | —   | —      | — |
| Ramanathapuram Market Committee | —             | 4   | —             | 3    | —        | —   | —      | — |
| Malabar Market Committee        | 22            | 231 | 125           | 1029 | 8        | 152 | —      | 5 |
| South Kanara Market Committee   | 27            | 190 | 23            | 161  | 4        | 55  | —      | — |

**II. Meetings:** A meeting of the Coimbatore Market Committee was held on 18—4—1956 in the Office of the Committee, Tirupur when six subjects were discussed at the meeting. A few of the subjects discussed are furnished below.

(a) Amendment to the schedule (a) Cotton kapas under by-law 28 (viii).

(b) Resolved to re-fix temporarily the cost of Borahs at Re. 1/- each. Thattus at 0-8-0 each and gunnies at 0-5-0 each with effect from 21—4—1956.

(c) The Committee resolved that the prices of the above may be revised from time to time as the market rates for these fluctuate.

**III. Quality appraisal:** 250 samples were drawn for analysis and to decide quality factors from out of 2517 lots comprising of 14,335

bags of groundnut kernels in six markets of the South Arcot Market Committee. The total-common refraction was below 4% in 143 samples, 5 to 8% in 106 samples and above 8% in one sample. The details of analysis which may perhaps be of interest are extracted below :

| Particulars                  | Cuddalore | Villupuram | Tindivanam | Virudhachalam | Panruti | Tirukoilur. |
|------------------------------|-----------|------------|------------|---------------|---------|-------------|
| <b>1. Dryage :</b>           |           |            |            |               |         |             |
| 2% and below ..              | 2         | —          | 4          | 88            | 2       | 3           |
| above 2% and upto 3% ..      | 10        | —          | —          | 5             | —       | —           |
| above 3% and upto 4% ..      | 4         | —          | 9          | —             | —       | 21          |
| above 4% and upto 5% ..      | 8         | —          | 13         | —             | —       | —           |
| above 5% and upto 10% ..     | 16        | 4          | 8          | —             | 2       | 36          |
| above 10% ..                 | 1         | 2          | 6          | —             | —       | —           |
| <b>2. Total refraction :</b> |           |            |            |               |         |             |
| 4% and below ..              | 22        | —          | 7          | 68            | 2       | 44          |
| above 4% and upto 8% ..      | 25        | 5          | 33         | 25            | 2       | 16          |
| above 8% ..                  | —         | 1          | —          | —             | —       | —           |

### Regulated Market for Coconuts & Arecanuts at Thalakkadathur near Tirur in Malabar (Opened on 18-3-1956)

The second Regulated Market for coconuts and arecanuts and under the Malabar Market Committee's Five Year Plan of opening 22 regulated Markets was opened at Thalakkadathur in Tirur Taluk on 18-3-1956. Sri K. P. Kesava Menon, Bar-at-Law, Editor, Mathrubhoomi, presided. Owing to the unavoidable absence of Sri R. C. Joseph, Collector of Malabar, who was to inaugurate the market, the inauguration was also done by the President. The State Marketing Officer, Sri M. Obeidullah Shan was also present.

Sri K. Sivasankara Menon, Secretary of the Market Committee, welcomed the gathering.

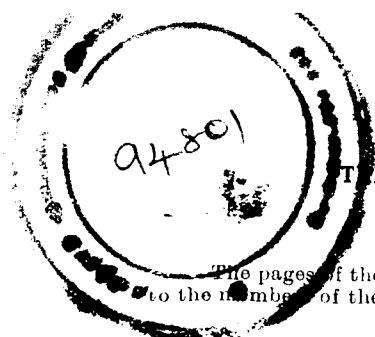
The secretary in his welcome speech said that it was the second regulated Market that was opened in this district and that the first one was opened at Kuttippuram last year by the Hon'ble Sri M. Bhakthavatsalam, Minister for Agriculture. He stated that the market opened at Thalakkadathur was the second of the 22 regulated markets which will be opened by the close of the Committee's Five Year Plan of opening regulated markets in this district. He also gave a brief description of how transactions are effected in the regulated market and the advantages of having regulated markets. He concluded by requesting the growers and traders of coconuts and arecanuts to make full use of this new market.

The President in his introductory speech welcomed the opening of a regulated market at Thalakkadathur which is an important centre for coconuts and arecanuts. He spoke of the usefulness of having regulated markets and exhorted the traders and growers of the area to fully co-operate with the market committee to make it a success.

The secretary then read messages received from distinguished invitees.

The President then inaugurated the market by cutting a ribbon. Two lots of coconuts which were brought in the market for sale were auctioned and both the lots were sold to a local licensed trader whose bid was the highest.

The function came to a close with a vote of thanks by Sri M. Balaraman Nair, Senior Inspector of the Committee.



## THE MADRAS AGRICULTURAL JOURNAL

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All articles for publication should be addressed to the Editor, Madras Agricultural Journal, Lawley Road P. O., Coimbatore.

In view of the high cost of printing, contributions should be as concise as possible and should conform to the best usage in the leading Journals published in India and abroad.

Manuscripts should be typed with double spacing on one side of the paper only and with wide margin. They should not ordinarily exceed 5,000 words or 12 pages of printed matter including tables and illustrations in the Journal. Manuscripts should be carefully revised; numerical data and calculation checked. Main headings in the text should be typed in capitals with paragraph indentations and followed by a period and two hyphens. Sub-heads should be lower case and be underlined to indicate italics. Latin nomenclature and local terms etc., should be in italics. Original papers must conclude with a summary of not more than 300 words, drawing attention to the main facts and conclusions.

**Tables:** The number of tables should be restricted to those absolutely necessary, as numerous tables detract from the readability of the article. Each table should be numbered consecutively from 1 up and must have a heading stating its contents clearly and concisely. The tables are to be typed on separate sheets with their positions marked in the text.

**Illustrations:** Wherever possible illustrations should be made with pen and Indian ink for reproduction as line blocks. The name of the author, title of the article and figure number should be written on the back of each figure in blacklead pencil. Each figure should have a legend typed on a separate sheet.

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