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THE MADRAS AGRICULTURAL STUDENTS UNION

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APRIL 1924.

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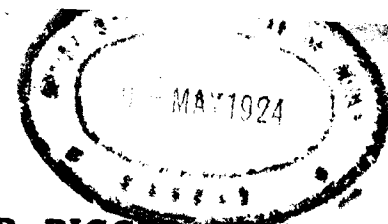
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**The Madras Agricultural Students'
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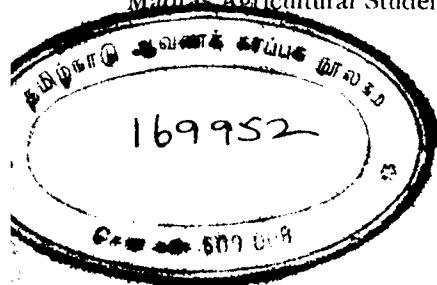
UNION ADVERTISEMENT

The Ramasastrulu-Muragala Prize 1924.

1. The Prize will be awarded in July this year.
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 original research or enquiry, carried out by him on any agricultural subject.
3. The subject-matter shall not exceed in length twelve foolscap pages type-written on one side.
4. Intending competitors should notify the Secretary of the Madras Agricultural Students' Union not later than the 15th May 1924 the subject of the paper which they propose to submit and the paper should be sent in so as to reach the Secretary, Madras Agricultural Students' Union not later than the 1st June 1924, with a covering letter showing full name and address of the sender. The author's name should not be shown on the paper which should be entered under a nom-de-plume.
5. Four type written copies of the essays should be sent in.
6. The name of the successful competitor will be announced and the prize awarded at the time of the Conference in July 1924.
7. The Union reserves to itself the right of publishing all or any of the papers.
8. All references in the paper to published books, reports, or papers by other workers must be acknowledged.

Any further particulars may be obtained from the Secretary, Madras Agricultural Students' Union, Lawley Rd., P. O., Coimbatore.

(Sd.) M. U. VELLODI,
General Secretary,
M. A. S. Union.



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THE JOURNAL
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Agriculture of a wet village in the Godavari Delta.

Peri LAKSHMINARAYANA.

Asst. Agl. Demonstrator, Bhimavaram.

Goraganamudi is a village in the Bhimavaram Taluk. It is situated on the Deddipatla-Akidu road about three and a half miles east of Bhimavaram, the taluk centre, and one and a half miles from the Gostanadi-Velpure canal.

2. The village is cut up by the road and the lands are easily accessible.

3. The village presents a variety of soils.
The inhabitants are mainly agriculturists and were 910 in 1901 and 952 in 1921.

The total land is about 860 acres of which 600 acres are under wet cultivation, the rest being dry with palmyrah topes etc., and gardens of graft mangoes and coconuts.

Soils. Soils of the following description are found in this village.

1. Clay soils.
2. Clay loams called Lanka Nelalu.
3. Loams.
4. Sandy loams called Yerrachikku Nelalu.
5. Sandy soils, more commonly called Garapa Nelalu and lastly
6. Alkaline or Ushar soils called Parra Nelalu.

In the extreme north lie the clay soils, which are under wet paddy. These are rich in manurial ingredients, but, being far away from the village, manuring them is difficult. They are also suited for raising dry crops such as Sesamum (Gingelly) and Sannhemp (Crotalaria Juncea).

Next come the clay loams, utilised only for wet paddy. These are reckoned best, as these soils contain the manurial ingredients, and are also within reach of the ryot for applying manures. Crops on these soils give the heaviest results in good years. As the crops generally grow very luxuriantly and as the ears are long, during years of heavy rain and severe storm, crops in these soils are very much affected.

Loams. There is very little difference between these and clay loams so far as paddy cultivation is concerned.

Sandy Loams. As these soils are situated on either side of the village site there is every possibility of their being manured heavily. Horsegram grows luxuriantly as a dry crop in these soils.

Sandy soils. These soils are of two kinds:—1. Sandy soils with salt pans underneath, 2. Pure sandy soils.

1. **Sandy soils with pans underneath.** (a) A Portion of these are under palmyrahs. Scrapings of *chaudu* can be had by washermen in summer here.

(b) The other portion is under wet cultivation, the level being lowered. Constant silting up by the Godavari irrigation water has improved these soils. Cattle manure and sheep penning generally act better than *pai mannu*. Here ragi is a suitable second crop. Dry sands with salt pans, covered as they are with sandy layer, cost not more than Rs. 100 per acre but when once they are made cultivable, the price rises to even Rs. 1000 an acre.

Pure sandy soils. These are well suited for palmyrahs, cashew-nut, custard apple (*Anona squamosa*) water melons and siruveru, a colouring material. With heavy manuring and care, brinjals and chillies are profitably grown on these.

When seedlings of brinjals and chillies are transplanted in these soils even though there is copious watering, they remain stunted with no fruit. But when scrapings of *chaudu* from old walls are applied in small doses and the crops, heavily watered (by hand watering only) they grow very luxuriantly and give satisfactory results.

Some of these soils are now being converted into profitable graft mango gardens and coconut plantations by judicious manuring.

Alkaline or Ushar soils. These soils though alkaline in nature, when there are better facilities for irrigation and drainage, are suited for wet paddy. In years of heavy rainfall, crops generally grow very luxuriantly. The paddy plant generally tillers more profusely in these than in any other soils. But the earheads are generally short and chaffy; and so the yield is generally less than that in other soils.

Climate. The air is nearly always humid, especially, in June to September which is the period of rains but yet enjoys abundant sunshine, so that rice thrives luxuriantly.

Rainfall. The average annual rainfall is 36 inches of which 24 inches are received in the southwest monsoon and 9 inches in the northeast monsoon.

Season. Mrugasira Karthi, is the best season for transplanting paddy.

There are two main seasons Sarava—June to November and December and Dalva—January to April.

Early paddy seed beds are sown in the middle of May and late ones after the opening of the canals early in June. Paddy transplanting is begun soon after the canals are opened and when freshes are received it is in full swing.

Dalva paddy seed beds are sown in the last week of December. Paddy is transplanted soon after the *Pyrugali* begins to blow (i. e. from about the 20th January to 15th February).

Sann hemp is sown in the standing crop of Sarva paddy, and is ploughed in as green manure for dalwa, if there is second crop otherwise, cut and stacked along with paddy straw.

If there is a second crop, there is also the practice of sowing sann hemp and teega pasara at the end of Dalwa in April to be used as green manure for the Sarva crop. A similar practice is also prevalent when *Pyrugali* is grown.

In sandy tracts where coconuts are grown, sann hemp is sown with the help of the early rains. If the rains are favourable, crops grow luxuriantly and at the time of flowering they are ploughed in to improve the soil by adding organic matter which is quite deficient in these soils.

Horsegram is sown in loams and sandy loams before paddy harvest in November to be utilised as fodder crop.

All gardens, coconut, and graft mangoes are usually ploughed immediately after the rains cease in October and November for root pruning and retention of moisture.

Water supply. The water supply is from the Godavari canals. Usually the canals are opened in the first week of June and the water supplied is utilised for watering not only early seed beds but also for sowing late paddy seed beds.

By about the 20th June freshes are received in the Godavari and with the help of this puddling and transplanting are taken up. The water obtained during this period is quite sufficient for the first crop. During the second crop season, as there are no freshes in the Godavari and there is little rain, the water supplied is quite inadequate for the whole delta even though it is a three months crop. The Public Works Department have restricted the area to about half by turns. Even then, difficulty is felt in getting sufficient supply of water in April.

The canals are closed for one month in May for silt clearance. As most of the lands are liable to submersion in times of heavy rain-fall, ryots generally grow seedbeds early in May and transplant by the middle of June and as the canals are closed in the month of May, they generally irrigate the seedbeds either by baling by swing baskets or lifting by means of *Karam* from the seedbed tanks, which are a special feature of the Godavari Western Delta.

The village is inhabited and the lands are mostly owned by the Kshatriyas who are either cultivators or lease out to Panchamas and Turpu Kapus.

Tools and implements. The tools mostly in use are the country plough, the crowbar, para (Mamuti) and the common sickle and the Katheva. This last is hewn out of babul (*Acacia Arabica*) and the Indian Walnut (*Albizia lebbek*) wood. This is about four feet long containing two feet of handle and two feet of a triangular blade, wedged towards the end flattened on one side, with slight inclination, and the other presenting two triangles converging to the middle.

It is specially useful when iron implements fail for some reason or other. It can release clods of earth under water especially in rich clay soils. These are used for bunding and repairing the silted up *bothies* (distributaries). To be brief, it is suited mostly to soils in moist condition.

Manures. The manures in common use are Patty Mannu (village site earth) and cattle manure. Patty Mannu is highly priced for paddy lands. About 80 to 100 cart loads are used per acre at a time and the efficacy of the earth lasts five or six years. Of late the earth is getting scarce and the price of a cart load is about a rupee on the average to reach the field. It is very useful in lands that crack during summer. Its application is not of high value in sandy soils. Cattle manure is also in use. In summer the practice is to pen cattle in the fields. Sheep from other places generally come to the several villages in the delta for fodder which can be had on bunds, old channels and tanks in summer. Shepherds are paid in kind at fixed rates to pen sheep in paddy fields and also in coconut plantations on sandy soils. The practice of growing manure crops such as sannhemp and Teega pasara or daincha is also in vogue.

Paddy. The area under wet paddy is about 630 acres. The varieties grown are :—

1. Basangi, 2. Garikasanna vari, 3. Rasangi, 4. Akkullu, 5. Krishnakatukalu, 6. Konamani, 7. Atragada, 8. Mukkapaya and those brought from the Samalkota Farm,

1. Basangi, 2. Rasangi No. 3, 3. G. E. B. strain No. 24, 4. Punasa Konamani, 5, Konamani No. 3, and 6. Navaketisannalu.

Basangi and Garika sannavari. These are early varieties and are generally transplanted in the first crop season in high level wet lands for fear of rains at harvest time. These are particularly planted in fields where high level bunds and village sites are available for threshing in the rainy season.

Rasangi. Grown in sand and loams as it is generally believed that it gives better yields when planted in such soils.

Akkullu. Withstands submersion to some extent and it is grown in poor and alkaline soils also as it thrives best.

Atragada, Krishnakatukalu and Konamani. Are planted in low lying fields as these are long duration varieties. Atragada is the variety that is locally consumed.

Mukkapaya. It grows very luxuriantly even in the poorest soils, tillers profusely and is generally disease resistant.

Paddy Seed beds. Level plots are generally selected for seed beds in all except alkaline soils. The manures generally applied are

well decomposed farm yard manure, ashes and pati earth to some extent and, when these are not available, other green leaf manures such as yerakham (*Calotropis gigantea*) and (Cassia tora). Generally, all early seed beds are raised wet and late ones are mostly wet and rarely dry.

The general seed rate is 80 to 100 Kunchams (Kuncham=7lbs.) per acre of seed bed but after the advent of the Agricultural Department the seed rate is being reduced to 60 to 80 kunchams. The seedlings got from an acre of seed bed are sufficient to transplant about 20 acres on the average in the first crop season and only 16 acres in the second crop season.

Preparation of the field. In clays that crack well and deeply in summer, when there is no dalva, water is usually let in and the field is roughly levelled up by manual labour, and transplanting is done straight away without any attempt at puddling.

In other lands the general practice is to let in water, puddle the land twice or thrice and plant.

Transplanting is generally done in singles in the first crop season and in doubles and triples in the second crop season to avoid damage by the swarming caterpillar.

Irrigation and drainage Watering is regularly managed and special care is taken in draining the lands once or twice a week.

Weeding. The weeds generally found are :—

Tunga (*Cyperus Rotundus*),—two species Saka and Anthara. The former is said to indicate a good soil and the latter, a poor soil.

Alli. Two species—Bura Alli indicates a good soil and Parra Alli is prevalent in alkaline and poor soil.

Usadan. Is often found in low lands,

Harvesting etc. A week before harvest, water is let out of the fields and sann hemp or other pulses, Horsegram, Pesara etc., are broadcasted in good soils. Harvesting is done by sickle and the sheaves are left in the field from three to five days for drying. Then they are bundled and stacked to be threshed at the convenience of the ryots.

The common pests and diseases found in paddy are :—

1. Swarming caterpillar.
2. Redsmut (Yerra Tegulu).
3. Silver shoot or kodu caused by a small fly grub.
3. Tatakku Tegulu (*Hispa armigera*).
5. Paddy stemborer (Woosatiri).
- and 6. False smut (Manukaya).

Agricultural labourers. These are usually panchamas and turupukapus (men and women).

Permanent labourers. There is one known as Paleru paid annually, generally in kind—a portion of the sweepings in the threshing floor, not usually measured or weighed plus 100 to 120 kunchams of paddy. On the whole he will not stick on unless he gets more than two puttis (18 bags or 360 kunchams). His wife works only during transplanting and harvest seasons and she usually gets an amount equal to about half the amount of the casual wages.

Besides he gets a pair of shoes worth Rs. 2, four bundles paddy equal to 16 kunchams and palmyrah leaves for thatching his house equal to about 600 leaves worth Rs. 5 and his wife is also given three bundles of paddy equal to 12 kunchams per annum.

The other permanent labourer is known as Kijitagadu meaning a cooly paid by measuring with hands. He is paid from one kuncham of paddy to about two puttis per annum. In addition, he gets a pair of shoes worth Rs. 2, three bundles of paddy equal to 12 kunchams and a pair of clothes worth about Rs. 2 for Sankranti pandaga (Pongal).

Casual labourers, paid in cash every day, work from 9 A. M. till 6 P. M. with an interval of about an hour for midday meal. The usual rates are, for males 8 annas to 16 annas and for women, from six annas to twelve annas.

Land tenures. The village is ryotwari. The assessment is the highest for the loamy soil lying nearer the village and is about Rs. 9, and lowest for lands of alkaline nature Parra—a little far away south of the village—and is from Rs. six to seven per acre.

For sandy dry lands the assessment is Rs. 2.

The value of land is from Rs. 500 to Rs. 1000 per acre, wet for good soils.

Lease and lease conditions. Ryots generally do their own farming. In other cases poor soils are given on share system—half and half—for produce and taxes (paddy only) and the tenant bears cost of cultivation and seed.

Rich soils are given on share system—two parts to landlord and one part to tenant, and the land lord pays all taxes. These are the terms for both the first and second crops. For all other crops grown the produce is divided equally.

In the case of rich soils, the land lord has to bear all the expenses of manuring—applying fifty cart loads of patti earth every third year. In the case of poor soils, patti mannu is given by the land lord and carted by the tenant at his cost at the rate of fifty cart loads per acre every third year. These poor soils are a little far away from the village and have no better means of irrigation and drainage.

Cattle mostly come from Vizagapatam district and Reddi Seena of Yernagudem taluk. Big sized bullocks and buffaloes come from Vizagapatam district. These are well fitted to drag heavy loads and for heavy plough work. Reddi Seema buffaloes are not strongly built but are smart at work.

Bobbili buffaloes and bullocks from Vizagapatam district are preferred for cart work, whereas Reddi seema and ordinary Vizagapatam country buffaloes are put to the plough. Best Bobbili buffaloes cost 200-300 Rs per pair and Reddi buffaloes cost not more than Rs. 100 per pair and bullocks from Vizagapatam district cost about Rs. 400 per pair, on the average.

Cattle feeding. Previous to the introduction of the second crop cattle were fed only in the working season. But now they are being fed throughout the year. In delta lands, the only fodder that can be had is nothing but paddy straw. Unless and until the cattle are given mixed fodder of a cereal and leguminous crop (paddy straw plus senn hemp), they will not keep in good condition. To recoup the deficiency, rice bran (thavudu and dugara) and horse gram are given, for all work and milch cattle. To improve the milking quality, it is the custom to feed the milch cattle with gingelly cake also.

Work cattle are fed once a day in the nights while milch cattle are fed twice a day both morning and evening. The following quantities are given per head per day.

	Tavudu	Dugara	Horsegram	Gingelly cake
(a) Work cattle		1 kun	$\frac{1}{2}$ seer	
(b) Milch cattle	$\frac{1}{2}$ kun	...	$\frac{1}{2}$ seer	$\frac{1}{4}$ Viss.

Cattle diseases. Rinderpest (kinka) is the most common disease and is causing much havoc in buffaloes. The general symptom of outbreak is that there will be abnormal purging, with bad smell. They are given generally some astringent (Vagaru) such as the decoction of the barks of Pipal (Ravi and Bogada.) They will not touch fodder for three-four days, only kanji and fine rice bran are given in the beginning. No green fodder nor horsegram pottu should be given to the animal until it recovers. Recently some villagers are taking to inoculation as a precautionary measure.

The other common disease is the *foot and mouth disease*. The local practice is to wash the affected parts with luke warm water and then to apply a mixture of 1. leaves of custard apple (*Anona squamosa*) 2. lime and 3. tobacco.

At present owing to the absence of facilities for satisfactory drainage, money crops like sugarcane or plantain are not grown.

From GREAT THOUGHTS.

The Reward. Work in every hour, paid or unpaid; see only that thou work, and thou canst not escape the reward; whether thy work be fine or coarse, planting corn or writing epics, so only it be honest work, done to thine own approbation, it shall earn a reward to the senses as well as to the thought; no matter how often defeated, you are born to victory. The reward of a thing well done is to have done it.

RALPH WALDO EMERSON.

BUILD WELL.

You must go on and build to-day
On what you builded yesterday,
You may want much to pull some out,
To fix anew and change about.
But sure as life and death and day
You must build on from yesterday.

So build you fair, and build you strong;
And build to last a whole life long.
Prove every stone, make each line true
That all may be but joy to you,
For sure as life and death and day
To-day will make your yesterday.

Mary E. F. ROCK.

REVIEWS.

Brahman (Zebu) Cattle—Farmers' Bulletin.

This useful bulletin gives an account of the introduction of cows and bulls of the Indian breeds—the Nellore, the Kistna Valley, the Guzurati and the Gir breeds—into the United States of America, the results of their crossing with the local breeds and their present position.

We understand that since 1849 when one Mysore bull and two calves were imported by one Dr. J. B. Davis, America has kept an eye on India and the importation by one Mr. Borden in 1906 laid a sure and solid foundation for the formation of herds with a preponderance of Indian blood to-day. There are it is reported less than 100 pure-bred Indians and several hundred crosses. These animals have found a kindly home in the Gulf States and in Texas where they are scattered all over. They are much in favour with the American cattle owners and their popularity is declared to be due to their colour, their adaptability to localities notorious for poor grass growth and drought conditions, their complete freedom from ticks, lice and other pests which infest these regions, their alertness and their prolificacy,

V. M. A.

Report of the season and crops of the Punjab 1922-23. Govt. Printing Press, Lahore, Rs. 2.

The season is reported to have been very favourable, characterised as it was by a good though earlier monsoon and plenty of winter rain. The rain in the earlier part of 1922 was sufficient for Cotton and Sugarcane sowings. Wheat continued to occupy the first place in cultivation with 96 million acres out of a total cultivated area of 25.3 million acres. Gram comes next with 5.4 million. Bajra (Cumbu) is a good third with 3.1 millions. Sugarcane has shown a steady advance from 0.30 millions 1914-15 to 0.44 millions during the year under report. Cotton has been erratic. Irrigated cotton has been irregular. From 1.3 million in 1914-15, it dropped to 0.9 in 1916-17, reached its maximum at 1.8 in 1919-20 and went down until it stood at 1.2 in 1922-23. Unirrigated cotton has suffered a perceptible decline from 0.4 millions in 1914-15 to 0.1 in 1922-23. Irrigated fodder crops have gone up 25% since 1914-15 when they occupied 2 million acres, though the unirrigated have oscillated between 2.1 and 0.9. The total area of crops sown under irrigation during the year was 13.8 millions and of unirrigated 18.0.

Punjab Cattle Census 1923—Govt., Printing Press, Lahore, Price—8 as.

In Punjab the Census was carried out in towns under special arrangements made by the Deputy Commissioners and in villages by patwaris (village officers).

From the tables published, Mr. H. K. Trevaskis, Director of Land Records, Punjab, thinks that the quantity of cattle is adequate. For every 10 acres one pair of bullocks is maintained.

The increased demand for milk has led to a steady increase in the number of she-buffaloes. The number of cows has gone down but is not inadequate seeing they are kept more for breeding bullocks for the plough and not primarily for milk which purpose is served by she-buffaloes.

There are evidences of progressive deterioration in the quality of cattle, chiefly due to the advance of canal irrigation into grazing grounds in breeding tracts, the draining away of the best cows into towns, existence of half-starved cattle and a growing disinclination to breed stock at home.

The usual milk supply is fairly satisfactory, the Montgomery yields about 2,500 lbs. or an average of $3\frac{1}{2}$ seers daily throughout the year and the she-buffaloes 4,000 lbs.

One main defect in this as in every other Cattle Census in this country is the determination of mere quantity rather than an analysis of cattle and their classification according as they are economically useful for otherwise from the standpoint of the owner or cultivator. We hope this point will receive due attention at the hands of the authorities at an early date.

GLEANINGS.

American Association for the Advancement of Science:—The 78th meeting of the American Association was held at Cincinnati, in Christmas week, December 27th 1923—January 2, 1924, and was a success in every way. It was the third meeting for Cincinnati.

To render Crude Oil Miscible:—Various agents are used to render crude oils miscible, and of these sodium oleate, ammonium oleate, resin oil and resin spirit are probably more frequently used than any others. The proportions used will no doubt vary slightly according to the various crude oils which it is desired to make miscible.

and the quantities used by manufacturers have been adopted by them after careful experimental work, and are consequently retained for their own use and information. Suitable proportions for certain cases could be arrived at by laboratory experiments, but it is doubtful if these results could be satisfactorily put into practice by orchardists generally, on account of lack of necessary facilities and conveniences.

The following procedure for home-made miscible oil, suggested by Purdue University School of Agriculture, is recommended for trial:—

Part I.—Emulsifier.		Part II.—Miscible Oil.	
Minhaden Fish Oil.	5 gals.	Emulsifier (as in Part I)	8 parts by volume.
Carbolic acid (liquid crude)	4 „	Crude oil.	35 „
Caustic soda (granulated)	8 lb.	Resin oil.	5 „
Kerosene	7 gals.	Water.	1 „
Water.	10 „		

A. A. Ramsay, Chemist.
Agr. Gar. N. S. W. Jan. 1924.

Foot-and-Mouth Disease:—The present outbreak in Britain was, according to the Scottish Farmer of January 23rd 1924, unlike anything for the past 40 years. There had been 2600 outbreaks in England and Scotland and these had involved the slaughter of 89,000 cattle, 30,000 sheep, 42,000 pigs and 110 goat up to the 14th February 1924. The outbreak has cost £ 3,250,000 (£1=15 Rs.) and expenditure for compensation alone was £2,851,000. Unlike in 1922, when half the cost was defrayed from Imperial funds, the other half being paid from local rates, the greater part of the expense during the current year was borne by the Exchequer.

To Make Asphalt Paving.—The materials used for ordinary asphalt paving for floors, etc., are blue metal, broken to a 1½ or a 1 inch gauge, screenings of the same, sand, and coal-tar. Twenty five gallons of tar are required for each cubic yard of metal etc. The lower thickness (usually about 3 inches) is of the larger stone. It is topdressed with the screenings and sand to a depth of 1 inch, this topdressing being rolled down hard on to the metal.

The method of laying is much the same as for cement concrete. The surface to be paved should first be carefully graded off, any soft spots being rammed solid. The mixture should be well prepared, the ingredients being thoroughly mixed together, and spread and tamped into position to the required levels. Topdressing for asphalt consists of hot tar spread with sand.

A cheaper paving consists of sifted furnace ashes in lieu of the metal, topdressed either with the blue-metal screenings or sand and tar only, the latter constituting the cheaper job.—A. BROOKS, Works Superintendent.

(*Agricultural Gazette of N. S. W.*, 1st September 1923.)

Family Budgets for working classes:—Dr. G. Findlay Shirras has published an interesting report of an enquiry into the working class budgets in Bombay town. From this it would appear that from April 1922 or during a full period of twelve months 2,473 working class family budgets and 603 single men's budgets were collected eliminating abnormal items. Of these budgets 90.3% related to Hindus, 6.2 to Muhammadans.

The average family was found to consist of 4.2 persons, 1.1 man 1.1 women and 2.00 children under 14. The average earnings for all the 2473 families were Rs. 52-4-6 per mensem. In every 100 families there were 154 wage earners, 104 men, 42 women and 8 children.

Expenditure was as follows:—

Food accounted for 56.8% of income.

Fuel and lighting. 7.4

Clothing. 9.6

House rent. 7.7

Miscellaneous. 18.5

The expenditure on cereals decreased and that on 'other food' increased with an increase in income. People getting below Rs. 30 spend 70.5% on food and those above Rs. 90 41.8%. About 97% of families live in single-roomed tenements in which infant mortality is greatest. The indebtedness of the family is ordinarily equal to 2½ months' earnings.

In regard to single men's budgets, boarding charges vary from Rs. 6 to Rs. 18. Expenditure in tobacco, liquor, and refreshments is high. About 25% is remitted to dependents in the country.

(Abstracted from the Madras Bulletin of Co-operation for Feb. 1924).

V. M. A.

Customs duty. Spraying machines used for agricultural purposes and component parts thereof have been declared exempt from import duty leviable under Schedule II to the Indian Tariff Act, 1894.

On and from 1st March 1924 a duty at the rate of 12 annas per maund of 82 and 2/7 lbs., has become operative on salted fish dry or wet imported into any customs port from any place beyond the limits of British India.

Advisory Committee. Development Department, Madras. An Advisory Committee on the administration of the Agricultural, Co-operative and Veterinary Departments has been appointed.

The Minister for Development is the President and

Messrs. C. R. T. Congreve

V. C. Vellingiri Goundar, M.L.C., Coimbatore Landholder.
Chavadi K. Subrahmanya Pillai, M. L. C., Tinnevely,
Landholder.

K. Prabhakaran Thampan, M. L. C., Malabar, Zenmi.

B. Muniswami Nayudu, M. L. C., Chittoor, Vakil.

G. Premayya.

K. S. Ponnuswami Pillai, M. L. C., Madura.

Rao Bahadur A. S. Krishna Rao, M. L. C., Nellore.

K. Sarabha Reddi, M. L. C., Kurnool.

Dr. John Mathai.

are members.

Secretary, Development Department and Council Secretary to the Minister for Development are ex-officio members of whom the former will act as Secretary.

The Director of Agriculture, Registrar of Co-operative Societies, Chief Superintendent, Civil Veterinary Department and the Principal, Civil Veterinary College will attend the meetings of the Committee.

The President may nominate temporarily local members for discussion of local subjects.

The constitution of the Agr. Department of the Union of South Africa. The Union Department of Agriculture is organised to a great extent on the lines adopted by the late Transvaal Department, which was modelled largely upon the Department of the U. S. of America. At the head of the Department is the Minister, who is responsible to Government for the policy and acts of the Department, and next to him is the Secretary, who is the permanent head of the Department and the Accounting Officer. It is the duty of the Secretary to see that the wishes of the Minister are given effect to, and he is responsible to the Minister for the work of the Department. The Secretary is assisted by an Under Secretary.

(*Journal Department Agriculture, S. Africa.* Feb. 1924.)

A new use for the By-product from Kerosine Oil Gas Plant. The Professor in charge of the gas plant at the Agricultural College, Poona, has made the interesting discovery that the tar got as a by-product from his plant is an efficient weed killer. The plant at Poona appears to be somewhat like the one at the Agricultural College, Coimbatore, being one of Mansfield's. This tar is said to be

slightly different from the ordinary coal tar as obtained in the bazaar. It is not so sticky and evaporates quicker than the latter, an advantage of some importance. Experiments at the sugarcane-breeding Station at Coimbatore has already demonstrated the value of tar emulsion as a killer of *Saranai* (*Trianthema monogyna*) and it is proposed to conduct experiments with emulsion made from kerosine tar.

T. S. V.

The Presentation of Certificates of Proficiency, 1924.

At a meeting held on Thursday the 10th April at 3-30 P. M. in the Big Lecture Hall, which prominent citizens of Coimbatore, the Teaching and Research staff of the College and Institute and the students had been invited to attend, the Director of Agriculture Mr. R. D. Anstead presented the certificates of Proficiency to Students who had been declared successful in the examinations held recently. The Principal in a short speech gave a resumé of the progress made during the year preceding and requested the Director to present the certificates and medals. The opportunity was also taken advantage of for presenting medals to B. Sc. Ag. Students. The Director then gave a short address of advice to the recipients of the medals and certificates, in the course of which he mentioned the welcome news of the provision of a few appointments during the year, and brought the function to a successful close. The speech of the Principal and the Director's address are printed below in extenso.

The Speech of the Principal—Mr. R. C. Broadfoot,

MR. ANSTEAD AND GENTLEMEN,

As the Principal of the College it is my duty to give a short report of the work done during the past year. Class changes which have been in progress for the last two years are now completed—the new courses settled and will, I hope, be found satisfactory for a number of years. The old Diploma Course has gone—many may regret its going—but I am sure the adoption of the Degree Course in its place is accepted as a mark of educational progression, in line with the times.

The year started with a total of 72 students—a number much below our expectations. The decrease was inevitable, and was due to the passing of the diploma class and to the smaller numbers who joined in the first B. Sc., and First Year Certificate Course. As the result of the withdrawal of stipends in the case of Degree students, only six joined, and of these one resigned early. Twelve students joined the Certificate Course.

The result of the previous year's examinations could not be considered satisfactory, and the large number of failures in the B. Sc., examination may have deterred some applicants from joining. In the Degree examination, eight out of seventeen candidates, who sat at the examination qualified for the degree while out of eighteen who appeared for Part I, only seven gained the necessary pass marks. The Robertson Medal was won by S. M. Kalyanaraman, the Keess Medal by S. N. Venkataramanan and D'Sylva Medal by M. B. V. Narasinga Rao, all in the Degree Course. The Degree examinations are now in full swing and it is hoped there will be a higher percentage of passes this year.

The Certificate examination is just finished. The Class as a whole was better than its predecessor, there being very little separating the first 3. The Clogston Medal goes to P. K. Kannan Nambiyar and the Diwan Bahadur R. Raghunatha Rao Prize to A. Jivaratnam. Certificates will be presented to successful candidates whom I congratulate on their success. I hope they will have equal success in securing suitable employment and that all shall look back on their College days with that degree of pride which raises our College above its rivals. Your impressions may guide other students seeking to choose a College and I should be extremely sorry to hear of any old student, who by word or deed lowered the tradition of this College.

The College Day Celebration and Conference of 1922 which had been postponed on account of Plague were held in July last when the Hon'ble Sir K. Venkata Reddi then Minister of Development presided. The College Sports were held as usual and the various medals and trophies were awarded to successful competitors. Student Ratnavelu won the Athletic Championship easily and, was awarded the Parlakimedi Cup in addition the Cecil Wood Tennis Cup. The Victory Cup for the interclass games was won by the Certificate Class II.

In outside competitions we fared rather badly, being unable to secure any of the trophies for which we entered. This unsatisfactory result was due to the general paucity of players and to our own lack of reserves. If we are to regain our sporting laurels more interesting games must be shown by all.

The health of the Estate was on the whole good. Plague threatened but thanks to the energy displayed by the Sanitary Inspector we were able to keep the Estate clear. Cholera has been severe in many of the surrounding villages and despite precautions accounted for two recent deaths; fortunately its progress has been checked and our anxiety relieved.

I have now much pleasure in asking Mr. Anstead to present the Certificates and Medals to the successful students.

The Director's Address.

Mr. BROADFOOT AND GENTLEMEN,

I congratulate you, Sir, on the fact that you have been able to present a good account of the College during the past year.

It gave me particular pleasure to present the successful B. Sc. Ag. students to the Chancellor of the Madras University when they came up to take the degrees and they received a special welcome from the University. I hope that I shall have a similar pleasure in presenting the present batch of candidates, who are now undergoing the throes of examination, at the next convocation.

One thing in your report however grieves me very much, Sir, and that is, to hear that we have been so unsuccessful at games. In my opinion games play a most important part in the training of a student and do as much as anything else to fit him for that great game we must all play—the game of life.

I sincerely hope that a greater all-round interest will be taken in games at the College in the coming year and that we shall win back the high place we once held. I particularly want to see the Cricket shield come back to our charge.

The presentation of Certificates, coming as it does at the beginning of the official year, has come to be looked upon as an opportunity for the Director to say a few words about the coming year's work of the Department. But first of all I cannot let this occasion pass without paying a tribute to Mr. Parnell who has recently left us. In him the College has lost a brilliant research officer and a good principal, and you, students, a sterling friend. Personally I feel his loss, not only as a friend, but as a sound advisor more than I can say, and it has tinged the joy and pride which I feel in being honoured with the Directorship of the Department with sorrow, and it has made my task a much harder one.

You will no doubt have noticed that our budget estimates were passed without discussion in the Madras Legislative Council owing to the fact that all the time available was taken up in discussing the budgets of other departments. I personally rather regret this, since this department has nothing to fear from criticism in the Council, and I am always glad to hear what Members of Council have to suggest with regard to our work.

On this occasion last year I told you that owing to the financial difficulties in which the Presidency was placed this Department would have to "mark time". This year I have a little more cheerful message for you. Though we shall not be able to move forward with that "quick step" which we all desire, still we shall be able to move forward again slowly and that is something to be thankful for. The Government has recently sanctioned the addition of sixteen more officers in the lowest grade of the upper subordinate service and I hope very shortly to be able to make the necessary appointments and distribution.

The budget allotment provides for the carrying on of the present activities of the Department but, I regret to say, provides for little or nothing new. This department is a development department and it is quite impossible for it to stand still. Even though no new work is undertaken, no new development taken up, there is a natural development of our work which results from, and is a measure of the success of, our district propaganda, and our progress along this line is restricted by our resources in men and money. On all sides I am being asked for new farms to be opened, for more demonstration plots, for more demonstrators to teach those who are not already familiar with the methods we advocate. Unfortunately, and no one regrets it more than your Director, all these demands cannot be complied with. The additional staff will allow us to extend our activities to some extent and to meet some of the more insistent demands.

For the rest we can only carry on as we have done in the past and hope for better times to come when we shall be able once more to press forward and reap the reward of our labours and expand our sphere of influence so as to cover all the demands made upon us. Our activities are checked for the moment it is true, but our hopes are high, and we have the sure and certain knowledge that the work we are doing is of the utmost importance to the Presidency.

Now this policy of restriction affects those of you who have just won your Certificates. I cannot honestly hold out to you much hope of finding your life work in the ranks of this department but remember that was not, or should not have been, the real object with which you came to this College. It is true that in the past the College has absorbed most of her sons into her body corporate, either on the College staff or in the district work which depends on the results of research going on within her walls. But the real object with which this College was founded was to supply a practical education in agriculture which would fit her students to be better farmers of their own lands. If there is no demand for such an education then the justification for this College ceases to exist and the sooner it is closed the better.

To you Certificate holders then I would point to the land. I feel that you can do much good to this Presidency by putting the knowledge which you have gained here to practical account on the land if you really resolutely make up your minds to do so.

I wish to impress on you that though you are to day leaving the College to enter on the real business of life the College will always look on you as her sons and watch over your careers, and sorrow or rejoice with you. See that you so live and work that she may always be proud to say—"that is one of my boys." In America a ceremony like this is called "commencement" because it is the beginning of the leaving students' real life when they go out from the halls of the college to make a place for themselves in the outside world. I would ask you who stand today at this commencement of your lives to bear in mind throughout that life what we have tried to teach you here—to play the game for the side and not for self—that spirit of service which is so essential, placing work and high ideals first before position and worldly success and self last of all.

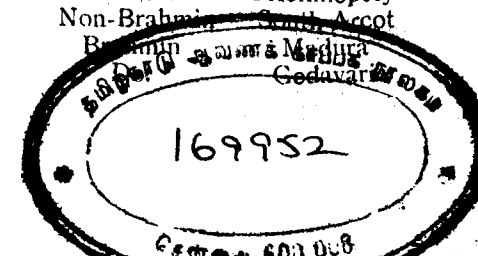
I congratulate you on your success in the examinations and I wish you well.

AGRICULTURAL COLLEGE, COIMBATORE.

List of students who obtained the 'Certificate of Proficiency' in April '24.
(arranged in the order of merit).

Ser. No.	Name of student.	Caste or Community.	District.
1.	Kannan Nambiyar P. K. (a)	Non-Brahmin Nayar	Malabar
2.	Krishnamurti P.	Non-Brahmin	Ganjam
3.	Varadarajulu Nayadu S.	Do.	Kurnool
4.	Kumaraswami V.	Do.	Godavari
5.	Subrahmanya Achari R.	Do. (Viswakarma)	Ramnad
6.	Papayya B. P.	Non-Brahmin	Godavari
7.	Daniell P. R.	Indian Christian	Ramnad
8.	Jivaratnam Andrew (b)	Do.	Chengleput
9.	Krishnamurti A. R.	Brahmin	Trichinopoly
10.	Balasubrahmanya Pillai	Non-Brahmin	South Arcot
11.	Krishnan C.	Brahmin	Madurai
12.	Ranga Rao M.	Brahmin	Godavari

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Ser. No.	Name of student.	Caste or Community.	District.
13.	Narasimha Pattathana	Non-Brahmin	South Kanara
14.	Samu P. V.	Brahmin	Madura
15.	Ratnavelu M.	Non-Brahmin	Coimbatore
16.	Antoni T. V.	Syrian Christian	Malabar
17.	Tirunavakkarasu M.	Non-Brahmin	South Arcot
18.	Achyutan Nayar K.	Do. Nayar	Malabar
19.	Lakshminarayana Sastri R.	Brahmin	Kristna
20.	Sitaramaswami D.	Non-Brahmin	Godavari

(a) Won the Clogstoun Prize medal.

(b) Won the Diwan Bahadur R. Ragunatha Rao Prize medal.

Agri. College, Coimbatore }
16th April 1924. }

R. C. BROADFOOT,
Offg. Principal.

UNIVERSITY OF MADRAS.
B. Sc. Ag. Degree Examination, 1924.

PART II
BOTANY. I

FRIDAY, 28TH MARCH. 7-10 A. M.

[N. B.—Only FIVE questions are to be answered. You are expected to give examples and sketches wherever necessary.]

1. Write an essay on vegetative reproduction as carried out in agricultural practice, pointing out its advantages over propagation by seeds.
2. What is meant by callus formation? How is it taken advantage of in horticultural practice?
3. Give an account of (a) how water in the soil is absorbed, and (b) the part played by water in plants.
4. Give a botanical account of the various parts of a cholam plant. Mention the variations occurring in the floral parts.

5. Explain clearly the theory of mutation, and show its practical bearing on the improvement of crops.

6. Explain, giving examples, the following terms:—unit characters, allelomorphs, heterozygote, and segregation of gametes.

PART II
BOTANY. II

FRIDAY, 28TH MARCH. 1-4 P. M.

[N. B.—Only FIVE questions are to be answered.]

1. Give an account of the special adaptation seen in water and desert plants.
2. What are the changes that take place in the reserve material of a castor seed while it germinates?
3. What are the various methods by which plants obtain their nitrogen?
4. How do the cultivated plants differ from their wild ancestors? Could we make any use of these wild plants in improving the cultivated forms?
5. Give an account of the endosperm in Angiosperms. How does it vary in its chemical composition in different plants?
6. Explain what a species is; and show how a new species originates.

PART II
CHEMISTRY. I

SATURDAY, 29TH MARCH. 7-10 A. M.

1. What are the chief chemical elements found in a plant? Which of them are essential to plant life? In what form are they usually assimilated, and what is the function of each?
2. *Either*, Discuss the relative merits of nitrate of soda, sulphate of ammonia, and oil-cake as sources of nitrogen to plants, with special reference to their mode of action and availability. Describe the nature of the guarantee you would demand from a firm when purchasing these manures, and state your reasons for it.

Or. Discuss how you would determine the manurial requirements of a soil, stating at the same time the usefulness or otherwise of the following:—soil analysis, crop analysis, pot experiments, and field experiments.

3. What is meant by 'reverted phosphoric acid'? How is it formed? How would you estimate it in a manure containing the same?

4. *Either*, Discuss the relative value of manure from young stock, dairy cattle and working bullocks.

Or. Describe the box system of making farm-yard manure, and discuss its suitability or otherwise to the conditions in South India.

5. What are the chief classes of nutrients required by animals? State the function of each class, and describe the process of digestion in each.

6. What do you know of the composition of sugar-cane juice? Describe the changes going on when such juice is limed and boiled into jaggery.

PART II

CHEMISTRY. II

SATURDAY, 29TH MARCH, 1-4 P. M.

[Note.—Only SIX questions are to be answered, of which questions 7 and 8 are compulsory.]

1. Explain the chemical changes involved in the formation and translocation of carbohydrate material in the plant.

2. Discuss the various factors which bring about variation in the quantity and quality of the ash of plants.

3. Discuss the general principles which govern the application of manures. State the manurial requirements of the following crops: paddy, tobacco, groundnut, and potato.

4. Why is green manuring so largely advocated? What unfavourable results are likely to follow from extensive green manuring? What remedies would you suggest? What will be the difference, if any, in the action of green manure, as applied to sugar-cane in the cane-breeding station and to paddy in the central farm?

5. Give the average composition of the milk of cows and buffaloes. Discuss the various factors which bring about changes in the composition of milk.

6. Write short notes on:—(a) tilth, (b) minimum cropping value, (c) vitamins, (d) starch equivalent, (e) available phosphoric acid, (f) rancidity of butter, (g) curing of cheese, (h) protein consumption.

7. (a) What is the unit value of manures? Calculate unit values for the following manures, which may be taken to be of average good quality:—

Flour phosphate at Rs. 55/-, Bonemeal at Rs. 100/-,
Fish guano at Rs. 105/-, Bloodmeal at Rs. 165/-,
White castor poonac at Rs. 125/-, Horumeal at Rs. 120/-.

(b) Frame a manure mixture from such of the above manures as you would choose, which would approximately contain 6 per cent of nitrogen and 15 per cent. of phosphoric acid, and state what would be its cost price per ton.

8. Calculate the ration for an adult working animal from the following data:—

Feeding standard:

Digestible proteids 2 lb.
Digestible non-proteids 14 lb.

[Note.—Only 15 lb. of paddy straw can be spared daily.]

Foods.	Percentage Composition.				Digestive Coefficients.			
	Proteids.	Fat.	Carbo-hydrates.	Crude Fibre.	Proteids.	Fat.	Carbo-hydrates.	Crude Fibre.
Paddy straw	4.2	2.2	33.5	35.3	30	45	32	57
Cholam fodder	1.4	0.5	14.8	10.5	62	85	78	60
Ground-nut cake	43.2	9.2	23.8	5.2	90	90	84	20

PART II

AGRICULTURE.

MONDAY, 31ST MARCH. 7-10 A. M.

(Only FIVE questions to be answered. All Candidates must attempt Questions 1 and 2.)

1. Name the chief weeds of the dry and garden lands of the Central Farm. Explain how all these weeds could be effectively got rid of in the normal course of cropping.

2. In working out a ration for farm live-stock, what factors must be taken into account? Illustrate your answer by reference to particular cases.

3. What is—(a) Hay, (b) Silage, (c) Soiling? Compare the relative merits of all three. Under what conditions is the making of silage economically sound?

4. According to recent research the common methods of conserving cattle manure in vogue in this Presidency are wasteful. Is any improvement possible? If so, would any change in the present systems of cropping be necessary?

5. With a given size and dimensions of plot the probable error for cotton is 20 per cent. Illustrate by a diagram how you would lay out an experiment to test four different strains of the same species of cotton. Show how you arrive at the number of repetitions, if any, necessary.

6. A ryot owns a red loam field on which he is growing Karunganni cotton. At the break of the S. W. monsoon 2 in. of rain fell. He took advantage of this rain, pulled out his cotton, broadcasted cholam seed and ploughed all in the same day. During the next four weeks 4 in. of rain fell. Thereafter no rain fell for two months. Describe the condition of the cholam crop at the end of this period. What other procedure might this ryot have followed with advantage in putting in his crop? Give reasons.

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PART II

AGRICULTURE. II

MONDAY, 31ST MARCH. 1-4 P.M.

[Only SIX questions are to be answered. All Candidates must attempt Questions 1 and 2.]

1. Explain the principles of paddy manuring, and show how far they are followed by the wet land ryot of this Presidency.

2. Work out the present fodder requirements on the Central Farm, and show to what extent the fodder produced on the farm satisfies the demand. What alterations in the cropping scheme for 1924-5 would you suggest in order to produce sufficient fodder for farm stock, but no more?

3. A rich ryot in Coimbatore district purchases 30 acres of clay loam and converts it into garden land by digging a sufficient number of wells. Describe the cropping he will adopt, and prepare a comparative statement to show the net profits he is likely to realize.

4. It is proposed to start a demonstration farm of 100 acres, consisting of 20 acres wet, 30 acres garden, and 50 acres dry land, in Tenali taluq. Prepare an estimate for the acquisition of the land and the laying out and equipment of the farm.

5. Discuss the relative merits of pure Ongole and halfbred cows for dairy purposes in this Presidency.

6. Describe butter-making by the ordinary and the improved methods. Compare the money returns for one month if 200 lb. of buffalo milk per day are handled in each process.

7. What are the main systems of land tenure and types of leases in this Presidency? Discuss briefly their effect on the introduction of improvements in agriculture.

PART II

AGRICULTURE. ESSAY

TUESDAY, 1ST APRIL. 7-10 A.M.

Write an essay on—

Either,

'The consolidation of holdings.'

Or,

'The milk problem of any important town in this Presidency.'

PART I.
BOTANY—PRACTICAL.

FRIDAY, 4TH APRIL 8 A. M. TO 11 A. M.

1. Describe fully the specimen *A* (*Aristolochia bracteata*—full plant) and write full morphological notes on the specimens *B* (*Anisomeles malabarica* - Inflorescence), *C* (*Parkinsonia aculeata* - Phyllode), *D* (*Blepharis molluginifolia* - Fruits) and *E* (*Quisqualis indica* - Flowers).

2. Refer to the Family the specimen *F* (*Corchorus trilocularis* Full plant), giving your reasons for the same.

3. Identify the slides *G* (Fern - Transverse Section of stem), *H* (Anther - Transverse Section), *I* (Monocotyledonous root - Transverse section) and *J* (*Mucor*-Sexual stage).

4. Examine and make preparations of the specimen *K* so as to illustrate its structural details and identify the diseases in *L*, *M* and *N*. [Rust, *Pericarpia* on paddy, *Parodiella* (ascomycete) and *Uromyces*.]

PART II.
PRACTICAL AGRICULTURE.

MONDAY, 14TH APRIL 1924. 1 TO 4 P. M.

1. Analyse the given mixture on your table qualitatively.

2. Prepare a cropping scheme for 1924-25, for Field Numbers 6, 8, 15, 20, 44, 49, 56, 61, E. & O. blocks, and note the crops for 1923-24 on these fields.

PART II.
PRACTICAL BOTANY I.

TUESDAY, 15TH APRIL 1924. 10 A. M. TO 1 P. M.

1. Describe with sketches the specimen *A* and *B* and refer them to their Natural Orders. (*Sesamum indicum* and *Polyalthia longifolia*).

2. Write morphological or biological notes on *C*, *D*, *E* and *F*.

3. Sort out and identify the seeds in *G*. (seeds of weeds and crops).

4. Identify *H*, *I*, *J*, and *K*.

List of Successful Students in Part I.

1. Annaswamy A. K.
2. M. R. Balakrishnan (Passed Part II last year; takes the Degree this year.)
3. Gomatinayakam Pillai (Do)
4. Kamarazu B. (Do)
5. Duraiswami S. V.
6. Katchapeswaran S.
7. Mahadevan S.
8. Narayanaswami Naidu P. S.
9. Narasimham M. V.
10. Ramaswami K.
11. Satyanarayana Rao P.
12. Suryanarayana B. S.
13. Suryanarayana V. (Passed Part II also this year and the takes Degree).
14. Tirumalai N. C.
15. Venkateswaran P. A.

List of B Sc. Ag's in alphabetical order.

1. Balakrishnan M. R. B. A., (Brahman) Ramnad District
2. Gomatinayakam Pillai V. (Non-Brahman) Tinnevely Dt.
3. Kamarazu B. B. A., (Brahman) Godavari Dt.
4. Narasinga Rao M. B. V. B. A., (Brahman) Ganjam Dt.
5. Narayana Nair P. (Non-Brahman) South Kanara Dt.
6. Sarvayya Chetty C. V. (Vysya) Kistna Dt.
7. Satyanarayana M. B. A., (Brahman) Godavari Dt.
8. Srinivasa Rao L. (Brahman) Kistna Dt.
9. Suryanarayana V. (Brahman) Godavari Dt.
10. Tirumal Rao V. (Brahman) Kistna Dt.
11. Visvanatham K. B. (Do) Godavari Dt.

STUDENTS' CORNER.

The College examinations for both the courses were over and the College was closed for the long vacation on the 10th.

Consequent on the departure of Messrs: F. R. Parnell, G. R. Hilson and R. V. Norris and on other changes, the Board of studies has been reconstituted and Dewan Bahadur K. Rangachariar has become chairman.

The Students' Club. On the 5th of the month the Annual Day of the Students' club was celebrated when the report for the year was read by the Secretary, Mr. P. Narayanan Nair of B.Sc. Class III and office bearers for 1924-25 were elected. We abstract the following from the report which was very interesting and humorously worded.

The Literary side. During the year the Madras Mail, the Hindu the Illustrated Times of India (Bombay) Modern Review, Calcutta, Everyman's Review, Madras, and Health, Madras, were subscribed for. Towards the close of the year, there were 253 volumes in the Library which included a few kindly presented by Rao Sahib M. R. Ramasawmi Sivan and Messrs P. S. Jeevanna Rao and B. N. Padmanabha Ayyar. Seven meetings were held during the year at which the following papers were read.

Subject.	Speaker.	President.
Student life at Oxford.	Mr. D. S. Reddy, B. A., (Oxon)	Mr. W. G. Dyson,
Fungi and diseases of plants.	Mr. S. Sundararaman, M. A.	
My impression of North and South.	P. Narayanan Nair, B. Sc., III	Mr. D. Balakrishnamurthi.
Science Congress at Bangalore.	Mr. B. S. Suryanarayana B. Sc. II.	Mr. G. N. Rangasami Ayyangar, B. A.,
Physical culture.	K. Varadachari, B. Sc. II.	Mr. T. V. Ramakrishna Ayyar, B. A.,
Phosphatic nodules of Trichinopoly.	Rao Sahib M. R. Ramasawmi Sivan.	Mr. C. V. Venkataramana Aiyangar M.L.C.

A marked feature of this year was a "debate" arranged for discussing the question "whether improved implements were necessary to India?" This is satisfactory and will, it is hoped, continue to mark the activities of the Club in future.

Games. The usual games were played but owing to the inexperience of some players and the lack of a good and complete team, success did not attend them in the various tournaments. It is hoped next year we will see better results. We congratulate the Secretary and the Students' Club members on the creditable account rendered by them of, on the whole, a successful year.

ESTATE NEWS.

Visitors. Messrs D. Ananda Rao, P. H. Rama Reddi, W. Davison, Drs. Kunhi Kannan, Sampath Kumaran and B. Narasimha Iyengar and Dewan Bahadur K. Rangachariar visited the Estate in connexion with the University and certificate examinations. Dr. Kunhikannan, delighted the members of the Officers' Club with a conversazione on his "experiences in the West" when he traced the origin and development of the Negro problem in America and showed its application to India with reference to the satisfactory solution of a similar problem here.

Quarters. One of the Imperial type of quarters No. 4 having become vacant, Mr. C. Tadulingam occupied it during the month and in the chain of changes instituted thereby, Mr. G. N. Rangasawmi Aiyangar occupied New Prov. Type No. 1 and Mr. K. S. Visvanatha Aiyar the old Prov. Type vacated by him.

"Tannir Pandal." As during last year, the charitably disposed members of the colony opened during the month, a "tannir-pandal" on the Tadagam Road for supplying fresh water and buttermilk to passers-by during the hot days of the Summer months. It is an institution that will, we are sure, endear the members of the Estate to the population of the neighbouring villages; and we venture to suggest this may be taken as one of the *via media* of propaganda work of our Department so as to reach the hearts of the villagers quickly.

DEPARTMENTAL NEWS.

A Service Association. The Lower Subordinates of this Department have formed a Service Association with head-quarters at Lawley Road. A branch Association has also been formed for the first circle. We understand Mr. A. C. Edmonds presided at the first meeting of the branch and gave useful hints. The object of the service association being, as we reckon, the very legitimate one of protecting and advancing the interests of the Lower Subordinates and the means adopted being quite within the safe limits of the rules of conduct governing public servants, it is hoped almost all Lower Subordinates will become members, strengthen the association, make it most representative and profit thereby. We understand that at headquarters a resolution was recently passed and submitted to the authorities to give effect to the G. O. passed two years ago to the effect that when the Director recommended them, Government would sympathetically consider the cases of Lower Subordinates who were

considered fit for promotion to the upper grade. This service association is entirely unconnected with the Madras Agricultural Students' Union and this in our opinion is not at all antagonistic to it either in its aim or its methods. In fact we believe this association only concentrates the efforts of smaller groups to the material help of the cause of the Union.

Mr. Dunhill—assumed charge of the duties of Asst. Agr. Engineer during the month and occupied Bungalow No. 5 vacated by Mr. Newland.

The Botanical Garden: The charge of the Botanical Garden and Estate planting has been transferred during the month from the Govt. Ec. Botanist to the Govt. Lect. Botanist; and we think the change is but fitting since the Bot. Garden was originally designed to be of use for teaching purposes.

UNION ACTIVITIES.

Proceedings of a General Body meeting of the Members of the Union resident on the Estate, held on 6-4-24 with R. C. Broadfoot Esq., the Principal and President (ex-officio) of the Union in the chair. About 45 members were present,

Business: Consideration of the Budget for 1924.

The Secretary explained in brief the reason for calling the meeting after which the President read out the different items of the Budget. All the items were discussed thoroughly and the following tentative figures were adopted for the year's budget.

<i>Budget for 1924.</i>	
<i>Receipts:</i>	<i>Expenditure:</i>
Amount collected during the year as subscription for Membership under the New Rules, and as subscription for journal, ... 906 0 0	Amount already spent for providing the journal. ... 217 0 0
Amount still due the major-portion from the staff and students of the College. ... 738 0 0	„ Establish-ment ... 40 0 0
	„ Stamps etc, ... 15 0 0
	Amount required for the next 10 months. ... 1145 0 0
	Conference Number (Extra) ... 150 0 0
	Contingencies. ... 77 0 0
Total 1644 0 0	1644 0 0

<i>College Day.</i>		<i>Sports.</i>	50 per cent.
Amount expected by subscriptions.	Rs. 350	Printing Reports etc.	15 „
		Tea.	15 „
		Entertainment.	10 „
		Miscellaneous.	10 „

From the figures given above it will be seen that by making the subscription for membership annual and doubling the subscription of the journal for non-members, with a view to make the journal self-supporting, it has been possible to balance the budget as far as the running of the journal alone is concerned. As regards the College Day expenses it was found that a big amount was being spent every year from the permanent funds. The balance that remains in the Permanent fund at present will only be sufficient just to meet the expenses of the Union Building. It was therefore decided to cut short some of the items and restrict the expenses to the amount subscribed. At the same time it was suggested that with a view to run the College Day in the usual style the Government should be requested to contribute a portion of the expenses—that portion which is usually spent on the prizes, medals and other requisites connected with the sports usually held on the College Day. After some discussion the following resolution brought forward by Mr. B. V. Nath was accepted by the meeting.

“That in view of the fact that the funds of the Union do not permit the running of the sports in the usual style at the time of the ‘College Day’ the Principal be requested to approach the Director of Agriculture requesting to obtain a donation or grant from Government for the running of the sports on the usual college day held to commemorate the Foundation Day.”

The meeting then came to a close with the usual vote of thanks to the chair.

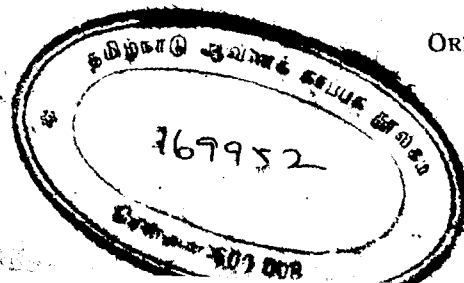
M. U. VELLODI,
General Secretary.

EDITORIAL NOTES.

The Budget. We have been accustomed during the past three years to hear a good deal of criticism at the Budget discussions as to the work and usefulness of the Agricultural Department. We are glad to note that during the current year no voice was raised against any item of expenditure budgeted for and the Council almost automatically passed the budget. About Rs. 14,000 has been sanctioned and provision has been made for the entertainment of 16 Upper subordi-

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- In thrift and foresight.
- In downright, constant hard work.
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- In doing one's work a little better than others did theirs.
- In holding the efficiency ideal of oneself and one's capabilities.
- In courtesy, kindness and consideration toward everybody.
- In always being ready to lend a helping hand wherever and whenever needed.
- In trying to make good in every possible way, while never taking advantage of others.
- In helping oneself instead of looking to others for boosts, capital or favours of any sort.
- In not being satisfied with anything but one's best, never accepting one's second best or a botched job.
- In always carrying some reading matter in one's pocket, so that spare time could be utilized while waiting for trains or for those who were tardy in appointments; by reading for self-improvement.



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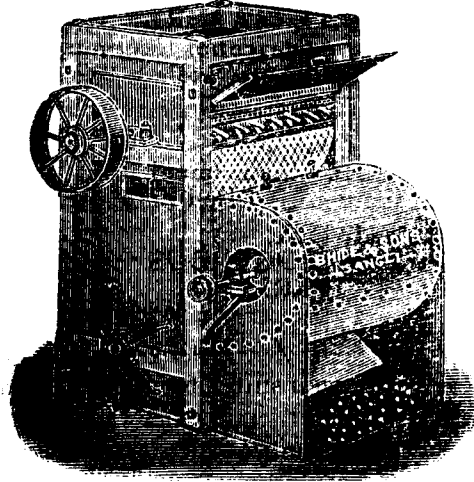
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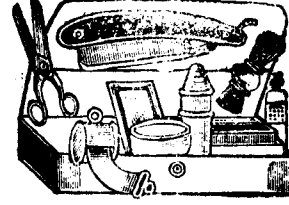
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