

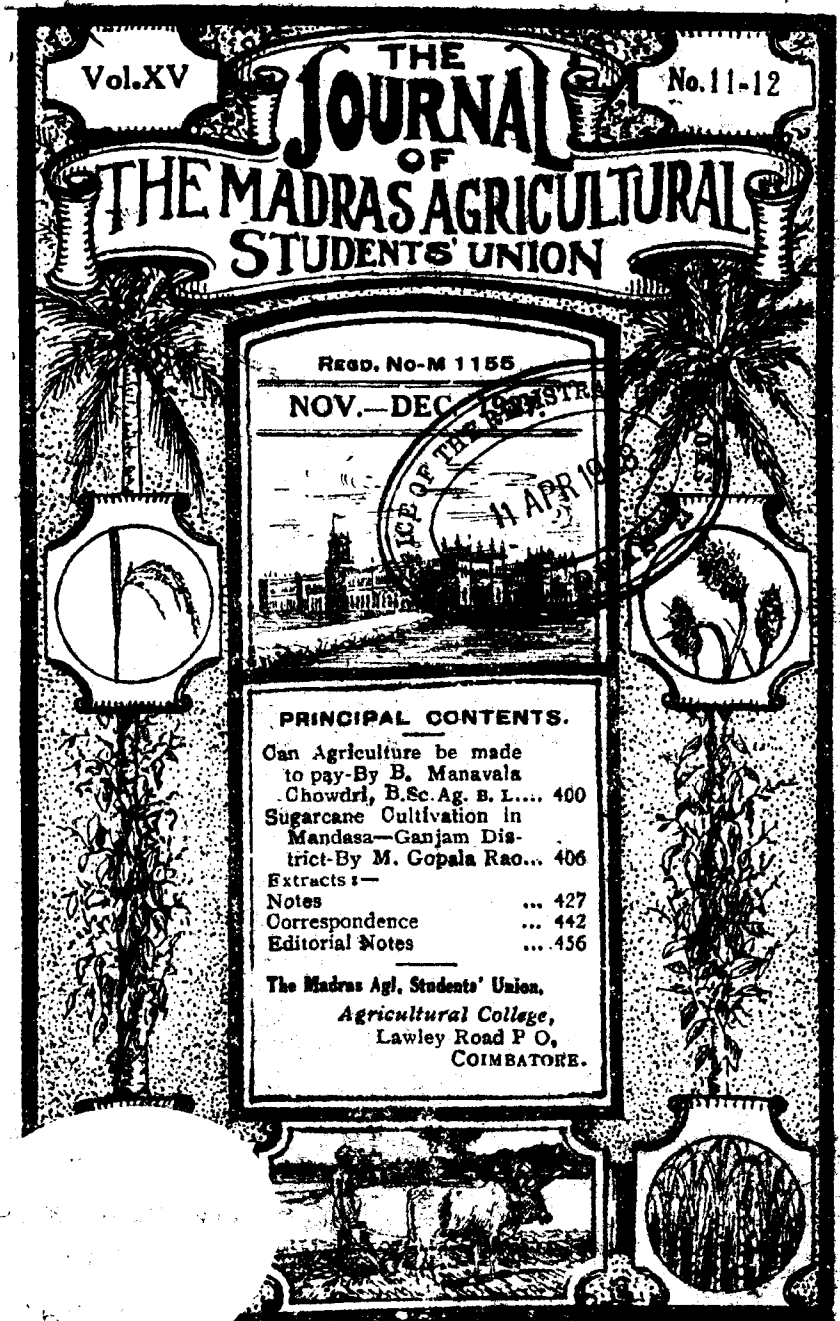
Journal of the Madras Agricultural
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Farming will never be a success unless the farmer
had more voice in the disposal of
his produce—P. Merrel.

THE JOURNAL

OF

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CAN AGRICULTURE BE MADE TO PAY.

By

B. MANAVALA CHOWDRI, B. S. C. Ag., B. L.

It is proposed to examine the question from the point of view of the small landholder, the large landholder and the educated young man who has taken his degree in agriculture. But at the outset it must be stated that conditions in the Madras Presidency are not the same everywhere and the possibilities of improvement of agriculture and of its success as a commercial proposition will vary with each place. This Presidency can roughly be divided into three types of areas and one particular place typical of such areas may be taken up for the consideration of the subject. The three divisions are, the deltaic or purely wet land area, the black cotton soil or the dryland area, and the area under tank irrigation where both the systems of agriculture are practised.

The first division will comprise the districts of Kanchi, Godavari, part of Guntur, Tanjore, Trichinopoly and part of Madura and Tinnevely; the second area will consist of the Ceded districts, Coimbatore, parts of Guntur and Tinnevely. The third

group is composed of North Arcot, South Arcot, Chingleput, Nellore and Salem. But it must also be observed that no district can be entirely put in one group, because in the same district all kinds of cultivation are existent and the above grouping is merely suggested as showing the predominating system of cultivation in that part.

In each of the divisions, I will first endeavour to describe what the present state of agriculture is, and what the possibilities for improvement are and then discuss how far it can be made profitable to the three types of individuals enumerated above. But before doing that I wish to discuss what would be considered an economic holding in these localities, i. e., what extent of land will keep a family consisting of a man, his wife and four children from starvation though not in affluent circumstances, leave him something to help him in his old age. I must own that it is rather a difficult task as the needs of every human being are not the same, and what may be considered as decent living by one may be considered by another to be niggardly existence and by a third princely life. But in spite of it we have certain average standards to help and guide us in our attempt. Mr. N. G. Ranga, B. Litt, (Oxon) in his valuable book on the Economic Organisation of Indian villages has come to the conclusion that 7 to 8 acres of wet land are necessary to keep a family in decent position. I should beg to differ from him. I would consider that half as much will do. I have endeavoured to work out the details of expenditure of an average ryot of each of these areas. On an average the wetland ryot requires Rs. 300, a dryland ryot Rs. 240, and a ryot of the third area Rs. 270. for his annual expenses. From this we can deduct what these people can earn from their own labour viz., Rs. 100, 120 and 140 respectively, and the rest is to be earned by them from their lands. Taking that on an average the net income from the lands is Rs. 40, 8 & 25 respectively, the economic holding can be taken to be 5 acres of wet land in the 1st area, 15 acres of dry land in the 2nd area, and 3 acres of wet land and three acres of dry land under well in the 3rd area. In this article I employ the term small landholder to mean a person who has less than an "economic holding"; a large landholder is one that has anything nearing 40 acres of wet land or 150 acres of dry land, or 25 acres of wet land and 25 acres of irrigated dry land with a little capital.

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Now coming to the subject on hand, I shall deal with the wetland area first. The crops usually raised in this area are Paddy, Sugarcane, Plantain and Turmeric.

It is in places where canal water can be had for nearly throughout the year that all these crops are grown. Where water can be had only for about 6 months in the year only paddy is grown, while in places where water can be supplemented from wells all the crops can be grown. The agricultural operations practised by the ordinary cultivator need no very great improvement. In fact what the Agricultural Department is trying to do in these parts is merely the introduction of new and better varieties of these crops and the application of chemical manures. The adoption of these may bring some more money to the ryot, but I really doubt whether it will carry him far. The question of sub division of fields will not affect the ryot as the fields in the area have necessarily to be small. Consolidation of holdings may be of help as it may reduce the cost of fencing etc., for sugarcane and watching the crops. No one will deny that the delta lands do keep the ryot from starvation, but can their cultivation be a commercial proposition? To the small landholder it cannot; he cannot advance by leaps and bounds making profits of 12 or 15 per cent. But how the lot of the small landholder can be improved will be the subject of another article. Here I shall merely state that it will not be a profitable concern to him. The large landholder has some scope for commercial enterprise. When he has a large area, he can minimise the inevitable waste to a considerable extent. He can so adjust his farm cultivation as to economise much of his manual and cattle labour. The work will be distributed especially among the crops he raises, he should choose some which mature early and some which are late maturing. I lay emphasis on this because this aspect of the question is not at all considered by several ryots who could certainly profit by following it. I have separately worked out the gain that could be had from an extent of 40 acres; where the gain is usually about Rs. 50 to 70 per acre, it can be increased to Rupees 70 to 150 per acre. There are other ways by which also the ryot can minimise his expenditure. Apart from the savings thus effected by way of minimising the expenditure he can devote a small portion for carrying on experiments with new varieties. I will not advise the introduction of machinery (nor is it quite possible) for all. The only machine that may perhaps

with advantage be used is an oil engine for pumping water from wells where the canal supply cannot be had all the year round, but even this is not advisable as the cattle supply of manure will get less. If he should have an engine for baling out water he can add a bone crusher and a tumeric cleaner.

In dealing with the educated young man who takes to agriculture as a vocation of his life, let me first say in what ways he is more skilled than the lay agriculturist. Firstly, he can devise means for soil improvement for e.g., badly drained fields can be properly drained; secondly, he can use his scientific knowledge for the improvement of the physical texture of the soil; thirdly, he can analyse his soil and supply any deficiency in plant nutrients if necessary; fourthly, he can always grow good and better varieties of crops. He can utilise his skill in seed selection and seed improvement. He can evolve new strains by his knowledge of plant breeding. He can utilise labour to advantage. He can improvise means for getting over water difficulties and the economic use of water, manure, cattle and manual labour. In the field of horticulture he can use his skill in grafting, budding, etc., and his knowledge of bio-chemistry should enable him to discover means for the use of his farm products and bye-products. His knowledge of veterinary science will enable him to cure simple diseases and rear his cattle in a healthy way. His knowledge of entomology and mycology will enable him to get rid of and prevent insect pests and plant diseases. But can he make agriculture a business proposition and adopt it as his sole profession without seeking Government service? The answer seems to be a simple "Nay" for the several agricultural graduates of this as well as the foreign universities (English and American) have none of them taken to it even though unemployed. But let us examine the question more carefully and see whether they are in the wrong.

I must own that, to my knowledge, the Agricultural Department has not been suggesting better methods of cultivation. I do not know what the Linlithgow Commission is going to say, but Dr. Voelcker of the previous Agricultural Commission has said that given plenty of water and manure, the Indian ryot knows how to turn his soil to the best advantage, and to this day my information is that the Agricultural Department has not done much to introduce new methods of cultivation. They have to

a certain extent, tried to transplant methods from one place to another which one particular locality has adopted for its needs to another place, but not always with much success. Hence there is not much that an educated youngman can do in this line. As for ill-drained and badly-drained lands, there are a few tracts in the Madras Presidency and the neighbouring States of Hyderabad and Mysore, where people of enterprising spirit could find employment but that will be under such trying circumstances that many dare not venture. There are also in some inhabited places, lands which are not well drained and which the educated man can tackle to advantage. In the way of seed selection and especially in plant breeding much of the skill and knowledge of the Agricultural graduate will be useful. He can produce what he wants and when he wants. Thus, if he wants a particular kind of rice which can be raised in the shortest period at a time when the harvest of the usual paddy is yet to come or a paddy that can contain more nitrogenous matter than the ordinary variety, or a sugarcane that will yield a large quantity of jaggery or a cotton which will have a greater length of fibre he can try to evolve them. 'Other ways of his superiority' has already been dealt with. Turning to the question on hand, what is his position in the three groups we have been talking about?

With the wetland area, there is practically nothing which he can do on a small holding as described previously. With the large holding he will be only a little superior to the ordinary land holder.

In the dry land area, the small land holder has even less chances. The usual crops are Jonna and Cotton. The methods of cultivation especially the care with which moisture is conserved in the soil in these areas has reached such perfection that it has been the envy of other nations and the glory of agricultural India. And hence a small landholder can in no way improve his position to a great extent. As regards the large landholder, there are chances of his success. Machinery of all kinds and for all purposes can be used with advantage. Well boring may be tried as well as the possibility of trying to secure water by other means such as anicuts, small tanks, etc. The chances of the educated young man are, in the dry land area, not very great in small holdings. In large holdings, he will only be a little superior to the ordinary landholder.

In areas where both kinds of cultivation are practised, the case is somewhat different. Even here avenues for commercial agriculture are limited and similar to those in the two previous cases. But there is one difference which ought to be mentioned. The small landholder will be left alone as he is without land and without capital. In the case of the large landholder the chances of his success are even greater than those of his compeers in the purely wet or dryland area. With greater ease could he distribute the cattle and manual labour. The success with improved machinery becomes all the more easy. A large variety of crops can be raised to suit the requirements of the nearest market. The machinery can all be put to some use or other throughout the year. If agriculture is a paying concern anywhere, it is only in such areas. Horticulture can be added to this and the profits increase with new lines of cultivation developed. The educated young man can also try his talents in such an area. An area of about 50 acres of wet land and 50 to 100 acres of dry land should pay him as much as a Government job in the subordinate services would pay for his skilled labour in addition to a greater profit on the land. I would suggest that some landlords who have enough of land which they do not cultivate and which they lease out, should give them on similar terms to some enterprising agricultural graduate who will help them in which they are unable to do so themselves. The tenants of the land should be kept in the same position.

There remain now two more branches of agriculture, horticulture and cattle rearing and dairying to be discussed. These two branches of agriculture are paying concerns and it is here more than in others that the large landholder and the educated agriculturist can make money and a name. Of horticulture I will say little, as no one is ignorant of the benefits of fruits and the gain from their production.

Dairying and cattle rearing have been considered by most people as unprofitable concerns. This is not true. If people have failed before, it is because they lacked the necessary skill required for it. It is in this field that the educated agriculturist can beat even the large landholder outright. As this is a somewhat important branch of the subject, I shall deal with it at some length with detailed budgets at a later date.

I should not in this article be understood to say that the Agricultural Department exists for no good or that agricultural education should be stopped. I have been dealing with the question of agriculture as a means to earn large profits and not with the improvement of the landholder's present position. That there are methods for such improvement and that the Agricultural Department could strive for it is an indisputable question and has certainly a good record of work behind it. Agricultural education especially if given to the youths of the agricultural classes of the Degree standard alone, but of the middle school or high school standard will make them much better ryots and truer citizens than they are at present. Agricultural graduates will find it only profitable when they have areas of new and virgin soils or new colonies and plantations. I have already indicated the chances of their success on fairly large areas of 'garden land' and in the fields of dairying with cattle rearing. Otherwise I must confess that they must seek Government service or other walks of life.

SUGARCANE CULTIVATION IN MANDASA—GANZAM DISTRICT

By

M. GOPALA RAO.

Cane is cultivated under purely rainfed conditions in parts of Mandasa Estate.

Kalingas form the main agricultural class and the cultivation of cane is chiefly in their hands. These are rich, intelligent and hardworking. Kapus and Telagas also cultivate canes. The extent of cane raised by any one ryot is small and hardly exceeds half an acre.

The land on which cane is raised is high level dry land. The soil is a sandy loam, mostly suitable for raising ragi, redgram, gingelly and sorghum and is retentive of moisture. The water table seems to be very low, sinking of wells is expensive and supply of water uncertain.

The tract however enjoys an annual rainfall of about fifty inches; dry weather months of January to March recording about 2½ inches, hot weather getting about five inches, the south-west monsoon accounting for not less than thirty inches and the north-east the remainder.

The variety of cane grown is Bantha. It is a soft cane with medium girth, grows nearly seven feet high, is green and yields rich juice. This variety does not however differ from the one raised in the neighbouring villages on wet lands where it is rotated with paddy and is under irrigated conditions. Ragi, gingelly and sugarcane are the crops raised on these dry lands and sugarcane is rotated with ragi.

Preparatory Cultivation :— This consists in thoroughly tilling the land and care is taken to see that no clods or stones are left in the field. *Manuring* :— About 5000 to 6000 sheep are penned per acre. The cost varies from Rs. 20 to Rs. 25 an acre.

Raising Nursery and Planting Setts :— Transplantation of sugarcane from seedlings raised in a nursery is adopted. Cane setts of previous crops, preferably top halves of canes are obtained and planted in the month of March or early April on small rectangular beds in a corner of the proposed cane field. Each of these nursery beds measures 3 feet by 6 feet. These rectangular beds are heavily manured with well rotten farm yard manure. About 30,000 setts planted in about 50 beds are sufficient to plant up an acre. After the setts are pressed in the beds, hand watering is done to help germination. Until the setts germinate and put forth three to four leaves, they are very carefully looked after.

Transplantation :— By May, the proposed cane field is got ready for transplanting the young cane seedlings, which are by this time, about a month old and little less than a foot in height. Small holes are dug in the field about a foot apart and cane seedlings as they are lifted from the nursery are planted and watered.

After Cultivation :— Five hoeings which include weeding are given till the receipt of monsoon showers, and at the last hoeing the plants are earthed up. From the time of the transplantation of cane seedlings till the commencement of strong monsoon rains in the middle of July, that is for a period of about two months and a half is a trying period for cane growers. During this period the seedlings are to be watered often to ensure their establishment and the absence of wells in the fields or in the vicinity, sometimes drives these cane growers to the necessity of fetching water with pots on their heads ~~from~~ from tanks half a mile away. It is this difficulty which determines the extent of

cane, which a ryot can cultivate. Early in the morning and late in the evening water thus brought is either directly applied to each individual plant, or stored in three or four places in small shallow pits, made temporarily and splashed by means of a scoop. The plants thus protected by the ryots are left to themselves after the break of the south-west monsoon until their harvest in January. No more waterings are given and no oil cake is applied. The only operations given are weeding, and wrapping. The natural high level of the land and the extreme porosity of the soil, hardly necessitate the cane grower to make arrangements for draining water even during heavy rains. The canes grow to a height of not less than seven feet, and look very healthy and far bigger in size, and better in quality than those raised in the northern Uriya parts of the District. Propping of the cane is known and is done only under certain circumstances, depending on the growth of the cane, and on the nature of the weather conditions.

Harvest and disposal of produce :—Harvest commences in January. Weekly shandies in the vicinity of cane growing villages offer a ready market for the disposal of cane for chewing purposes. Sometimes the standing crops are also valued and purchased by merchants. About 15 to 20 cartloads of cane valued at Rs. 200 to 240 are obtained per acre on an average. Jaggery is also made and there is a belief among the ryot population that the jaggery prepared from canes raised on dry land, is far superior to the jaggery prepared from canes cultivated under ordinary and regular irrigated conditions. On an average about 50 to 55 pots of jaggery are obtained per acre each pot being valued at from Rs. 5 to 6. The price of the pot of jaggery is determined by its capacity. Before the pot is filled in each pot is measured, so as to ascertain how many seers and half seers of sand it would take in, and the result noted on it so that later on, when it is marketed, the price can be fixed according to the number of seers contained. This sort of measuring and selling jaggery is peculiar in parts of Ganjam.

Income and Expenses :—An income of Rs. 200 to 250 per acre for a crop of cane is obtained and is rather low. However the cost of the cultivation never goes up, inasmuch as no

oil cake is applied and no regular propping is done. As these cane growers and their families work in the cane fields, unlike the rich cane growers of Godavari, the cooly charges also are very much reduced. Adequate returns which lands fetch, justify and explain the immemorial custom of cane cultivation on this vast dry area.

EXTRACTS

RICE IN ITALY.

By

D. ANANDA RAO, B. Sc. (Edn.)

Dy. Director of Agriculture, Madras.

(The following note is abridged from a very interesting and lengthy article on the subject which the author has written to the October number of the Modern Review, Calcutta and which embodies the results of his personal enquiries in Italy during a holiday tour in Europe last year.)

India ranks highest in the area of rice it grows. In 1920-24 the average annual area was 80,683,000 acres. In Europe Italy and Spain raise rice in large areas. Of these two, Italy grows nearly 300,000 acres.

The average annual outturn in India for 1920-24 was 47,365,017 tons whereas in Italy it was 491,968 tons. In other words while the yield per acre in India is reckoned at 1310 lb, that of Italy is 3670 lb. This is astonishingly high.

In Italy, Piedmont, the region in which Vercelli is situated, is the most productive of all; other regions are Lombardy, Emilia Veneto, Toscana and Sicilia. The region visited is situated in the valley of the Po and is fed by it and its tributaries. The most productive centres are Vercelli, Mortora, Navasa, Pavia, Milano and Cremano. The area under rice is gradually spreading to the east as far as the sea.

Rice cultivation has seen many vicissitudes. While the area during the last 50 years has decreased by 50 per cent the average yield has doubled itself.

5-year periods.	Hectares.	Quintals.
1870—74	232,670	4810,900
1879—83	201,850	3584,900
1890—94	182,450	3046,400
1901—05	175,365	4434,500
1910—14	144,998	4878,700
1915—19	138,618	5218,300
1920—24	121,408	4698,800

(N. B. One hectare=2.4 acres; one quintal=1.97 cwt.)

Such progress must be attributed to the methods of culture rather than to the inherent richness of the soil. The Po flows through granitic rocks and does not bring with it any high fertilizing materials.

The method of sowing by hand is the common, practice adopted. Only 10 per cent of the area is drilled with machines while another 10 per cent is transplanted. This last method came into vogue in 1912.

For weeding, manual labour is more largely employed than in India; very large expenditure is incurred on weeding. Women walk into the fields and weed exactly as women in India do.

Transplantation is done chiefly by manual labour. High cost of labour prevents the practice spreading rapidly; attempts are made to substitute machines. It is said that transplanting machines in use which are simple and ingeniously constructed cover 1 hectare in 1½ hours. Harvest is done with the sickle similar to the one in use in Madras but with slight modifications.

Small bunds are absent and the whole area looks like one vast field. One would see even 20 to 30 acres without being interrupted by bunds.

Great trouble is taken to level the lands and a good deal of terracing is done. Final levelling is done by means of levelling boards as in India; only horses are substituted for oxen. Water is allowed to flow gently to the fields. Flooding as is done in India is absent. From the main irrigation channels small distributaries are taken off about 6 yards apart through which water is let to the rice plots. Thus there is no waste of water in its distribution.

The required quantity is measured and distribution is left entirely in the hands of cultivators themselves. There are numerous associations of cultivators to distribute water to their members, the first of the kind—the one called West Sosia association having been formed in 1853.

The several rice zones are divided into districts or provinces and each sends its requirements of water to the central authority which is the association of the cultivators. These associations pay to Government a certain sum for the use of water from April to September. Individual cultivators in their turn pay a certain sum to the association. Besides, the canals owned by Government there are others which are the property of cultivators.

In regard to the irrigation of rice, the fields are dried on two occasions during the growth of the crop. 25 days after sowing, the field is drained for 4 or 5 days. The beneficial effects of soil aeration and root penetration at this stage are obvious. After this water continues to flow till after the last weeding when water is withheld and the vegetative growth is arrested. Before water is let in, artificial manures are applied after which irrigation is constant until a few days before harvest. During the last few months water is maintained constantly in order to keep the temperature of the soil uniform.

Certain permanent meadows called "Marcita" are kept up even during winter by constant irrigation. This constant flow of water keeps the soil under uniform temperature. Thus while all cultivation is ordinarily at a standstill, under irrigation it is possible to maintain a steady supply of fodder for the cattle.

Rice after rice or as it is called "risaia stabili" used to be the common method. This practice has given place now to systematic rotation of crops. There is no hard and fast rule as to the crops introduced in any particular rotation though rotation is adopted almost universally.

Around Vercelli it is usual to take one crop of a cereal like wheat or oats followed by one or two years of pasture after which rice is raised for 3 or 4 years. In regions where clay soils predominate and where drainage facilities are lacking as in Bologna and Montona, there is only one year of rice in rotation.

Before rice is cut are sown rape, clover, and other pulses which, when grown, are grazed by cattle in Spring. The second growth is turned into the soil as green manure.

In Vercelli, rice occupies 55 per cent of the total area, other cereals 15 per cent and pasture 30 p. c. while in other regions only 20 p. c. is under rice, 35 p. c. under other cereals, 30 p. c. under pasture and 15 per cent under industrial crops like hemp.

Owing to pasture following rice in the rotation the land becomes foul necessitating two and sometimes even three weedings. The first weeding is done in May; the second, in June and the third, in July. Cost under this head in the first year runs up to 1500 lire per hectare which is about 25 p. c. of the total cost of production and in later years, less.

Farm yard manure is the basal manure, up to 200 quintals being used per hectare. Superphosphate, ammonium sulphate, calcium cyanamide and sulphate of potash are also used the total cost under those running up to 800 lire per hectare. These artificials are applied twice first time in conjunction with the farm yard manure and the second time alone when the crop is three months old. Growing crops exhibit an excellent uniformity. Crops are free from mixtures and bear heavy earheads. These are the progeny of selected seed; the one seen by the writer was the one selected for early maturity with very little straw but abundance of grain. Of the several varieties tested Japanese varieties seem to have suited Italian conditions best and selections from them occupy about 15 per cent of the crop under these.

For ploughing, tractors are largely employed; electricity plays an important part in thrashing. Harvested crop is brought to the farm in horse-drawn carts and hauled up to threshing machines by electricity. By the time rice harvest is finished, winter sets in and drying of seed becomes difficult. Early maturing varieties are got in, in September when there is plenty of sunshine and with late varieties artificial drying by means of desiccations heated by steam becomes necessary about 450 quintals being treated in this way in 24 hours.

The Italian cultivator does not sell rice in the market as paddy but hulls it by machinery before it is sold. The by-products are fed to livestock and vice is sent to the market for sale or export. Farmers in this region are in affluent circumstances. They compare favourably with their brother farmers in Britain although the latter country is still the richest in Europe. About 300 hectares may be considered an average holding of the well-to-do people. They are all educated. Electricity is utilised also in their homes. Almost all own motorcars, several have radio machines. Some proprietors stay throughout the cultivation season on their farms and go to their city residences in winter when work is slack. Living is less expensive in this country than in most parts of Europe. Large proprietors have tenants to whom are leased out farms of various sizes. These are by no means poor and three hectares of land are considered enough to keep small peasants in comfort.

Migrations of labouring classes from poorer localities like Montona and Bologna to richer regions like Vercelli take place during agricultural seasons. People from dry lands go to wet land districts during transplanting and harvest seasons as in India. The peasantry are comfortably housed; some houses are two-storied, fitted with electrical lighting and all modern sanitary appliances. A farmer whom the writer visited owns 300 hectares of land and 35 families are working under him.

They have a school for the children, a reading room and a library for the use of the elders. They appeared happy and contented. Wages are paid in kind and cash but payment in kind is preferred as the value of lira is constantly changing while the payment in kind is more satisfactory and as the quantity of perquisites swells their income. Besides having houses provided for them they receive on an average about 9000 lire per annum which includes two quintals of rice, two quintals of wheat and eight quintals of maize. In addition they get $\frac{1}{2}$ litre of milk per person per day. In actual money they receive from 3 to 4 thousand lire. They are permitted to keep pigs. Goats often take the place of cows in many localities, a practice also prevalent in France. Fish culture is an interesting and paying subsidiary industry grown out of rice cultivation.

The standard of living of the labourer in rich tracts is high. Casual labourers work about 8 hours and get at 36 lire per man and 28 lire per woman per day. (At the time of the visit 130 lire were equivalent to one pound sterling.)

Dairy farms pure and simple as found in Britain are rare except near the Alps where natural meadows exist in abundance. Mixed farms are the rule. Milking cows are of the Swiss type and on an average yield 8 litres per day. Cattle insurance is very expensive and therefore horses alone are insured.

Such condition cannot be considered to be prevailing all through Italy. Wet land cultivators in the east are not so well off as those in the region of Piedmont or Lombardy. But on the whole wet land cultivation has brought prosperity to the people and has been characterised by three features - extreme economy in the distribution of water for rice crop; the judicious rotations followed which are suited to local conditions and which include pasture crops and the systematic and liberal manuring given which is rendered possible by the enlightened character of the peasants and the affluent circumstances in which they are placed.

With the experience gained in Italy the author recommends that for India (1) experiments should be conducted with a view to determine how far under canals and tanks water can be economised without detriment to present yields, (2) investigations should be undertaken to find out what kinds of grasses or fodders could be grown sufficiently quickly and in sufficient quantity to make it worth while for the cultivators to adopt and intersperse in the rotation and (3) in order to spread the result of researches, education should be imparted to adults more widely than at present.

COMMERCIAL DAIRY FARMING.

Summary of lecture given to the C.U.A.S. by J. Mackintosh.

Dairy farming in Great Britain is nowadays primarily concerned with the production of milk, and commercial dairy farming might be defined as dairy farming to obtain an adequate income in relation to the capital invested. Commercial dairy farming may be contrasted with dairy farming where the breeding and showing of pedigree stock, or the production of high quality dairy produce for private use, is practised more as a hobby than as a business.

The chief divisions of dairy farming are (1) milk production for sale as milk either to a factory or to a wholesale or retail distributor, (2) cheese-making on the farm, and (3) butter making on the farm. The proportions of the total output of milk in Great Britain used in the different ways are shown by the following figures:—

Estimated total milk production in 1921-22, 1220 million gallons.

Estimated Utilization.	{ Milk used as such	49.2 per cent.
	" " for butter	32.3 " "
	" " cheese	8.2 " "
	" " condensed milk	2.8 " "
	" " cream etc.,	5.0 " "
	" wasted or lost	2.5 " "

The selection of a suitable farm for dairy farming is more a question of position in relation to market, of freedom from contagious diseases, of water supply and of suitability of buildings, than one of soil, because the cropping can be adapted to the type of soil in order to produce the maximum supply of food for the dairy herd.

With regard to stock, there is much to be said in favour of selecting the breed most common in the district; in any case, claims of inherited suitability will be made on behalf of other breeds, so the purchaser must use his own judgment, remembering that good quality stock are sure to be cheapest in the end. To begin a dairy herd it is usually preferable to purchase first class heifers with

perhaps a few second calvers, if obtainable from a known and reliable source. Full use should be made of whatever milk record information is available.

When a herd has been gathered together it may be maintained by buying or by breeding. To keep up a herd to a high standard by buying requires specially good judgment, may give a large output of milk per head, involves greater risk of introducing disease, and gives little or no chance for improvement year to year. The maintenance of a herd by breeding is generally advisable and the aim and method should be clearly thought out. Three essentials in a good dairy cow may be agreed on at once, namely a good milk yield, a sound constitution and regular breeding qualities. In addition the owner should decide whether he also wishes to improve the breed type and uniformity of his herd. In the lecture room it might be taken for granted that all herd owners would wish to do so, but in actual fact many a herd shows by its mixed breeding and by the bull used that the owner may be aiming at yields, and gives no thought to breed type or uniformity. This system of management lacks any vision of the future, and the herd shows little or no improvement year by year. If in addition to good yields, healthiness and regular breeding and an advance towards an improved and uniform type is desired with a view to grading up into the herd book, then more thought and more money must be spent on the selection of a bull, but the work becomes much more interesting and the herd has a greater cash value in the event of a forced sale. This system of management is much more in harmony with the history of the British farmer as a stockbreeder.

The successful management of a dairy herd requires, in the first instance, the keen personal interest of the owner. Without this interest the men cannot be expected to be as keen and careful as they would otherwise be. Next it is most important to obtain good men and having found them develop their interest in their work in every way possible. Keep all the necessary records—milk yields, percentage of fats (especially in the case of any pedigree cows) and calving and service records; also consider in which season of the year the majority of the herd should calve. Heavy milkers will give their highest yields if they calve in the late autumn or early winter, but trade requirements and the season of greatest profit also require to be studied in this connexion. Records of

the feeding should also be kept showing the amount and cost of the ration, and a system of feeding should be followed which will correlate the amount and balance of the ration with the quantity of milk yielded and the condition of the cow. The rearing of calves and young dairy stock should be carried out economically yet on a system which provides amply for growth. With regard to the milking of the cows and the handling of the milk, the chief essentials are efficiency and cleanliness. If the dairy farmer is to increase his sales he must produce an article which will keep sweet in the consumer's house for a longer time than formerly. The farmer is apt to take up the attitude that the public must be ready to pay more for this better article before he will produce it, but this point of view is not that of a successful business man—supply has often created the demand. The Ministry of Health now gives licences to describe milk of higher hygienic quality by special designations and the possession of such licences has often led to higher prices.

In conclusion, successful dairy farming does not mean a selfish stay-at-home policy. It is a good business to take a judicious share in the farming activities of the district in the work of the local agricultural society, the country milk recording society and the local or county branch of the National Farmers' Union. Occasional visits to other districts to see the methods which have brought success there are also valuable. At all times, also the dairy farmer should keep an open and enquiring mind and cultivate a grim determination to succeed.

(From C. U. A. S. Magazine Vol. I No. I 1924.)

COIMBATORE BRED CANES WIN GOLDEN OPINIONS IN CUBA.

(FROM A CORRESPONDENT.)

Though India can boast of nearly half the world's acreage under sugarcane, she had to import in 1926-27 sugar worth 19 crores of rupees. This paradoxical position is due at least partly to the fact that in Northern India, where the main sugarcane area of the country is concentrated, some of the poorest canes in the world are cultivated. The experience of other sugar-growing countries having shown that it is possible to produce by hybridization quite new canes with a high tonnage capacity and a rich

sugar content, the Government of India established in 1912 the Imperial Cane-breeding Station at Coimbatore where canes were known to flower and set *viable* seed. Some of the seedling canes bred at this Imperial Station have proved far superior to India's indigenous canes. In Northern India where Coimbatore canes are now being grown on a fairly large scale, they have increased the acreage profits of cane-growers by 50-100 per cent. They have put, too, a different complexion on the prospects of the indigenous white sugar industry. In Bihar, where these canes have been introduced through Pusa, factories manufacturing sugar direct from cane turned out 819,920 maunds of white sugar in 1926-27, as against only 875,746 maunds in 1919-20. This large increase would have been impossible but for the introduction of superior Coimbatore canes.

The fame of these new varieties is by no means restricted to India; they are winning golden opinions by their remarkable performances as far afield as Cuba. Dr. F. S. Earle, the well-known sugar technologist of Herradura, Cuba, in a recent communication, in which he compares the yields of the Coimbatore canes with the variety Crystalina commonly grown in Cuba, says; "Coimbatore 210 is a thoroughly good cane under our conditions, giving big tonnage and sufficiently good sucrose at full maturity. Co. 213 in well grown fields gets to be almost as stout as Crystalina and on poor lands it will give a very much heavier tonnage. . . . It seems certain that it can be grown successfully on many soils where Crystalina is now failing to give profitable yields and its planting is being recommended for such locations. This cane is a strong ratooner which is a point of great importance for Cuba". Dr. Earle reserves his highest praise for Co. 281. It (Co. 281) seems to be particularly well adapted for their Cuban red lands, he says, and is succeeding admirably in soils which are far too old and exhausted for Crystalina and other local varieties. He adds:—"It is, however, in early maturity and high sucrose and purity that this cane is most remarkable. Among all of the varieties we are testing, Badila is the only one which can compete with it in this respect." The first crop of this variety (Co. 281) when 13 months old gave on analysis a sucrose content of 18.10 per cent. with a purity of 91.22, while the ratoons were found to have a sucrose content of 20.52 per cent., and a purity of 91.36. In the words of Dr. Earle, "this is a record of which any variety may well be proud."

Such testimony coming as it does from so high an authority, clearly demonstrates the value of the cane breeding work being done at Coimbatore and gives one reason to believe that the first requisite of a prosperous indigenous sugar industry has been provided by the Agricultural Department of the Central Government in India. It is gratifying to know that the work which India's Imperial Department of Agriculture is doing for the development of the World's Sugar Industry is much appreciated in far-distant Cuba.

SHALL ENGLAND DIE ?

*Some Practical Suggestions for a great Revival.
By the powerful Correspondent of The Sunday Pictorial.*

Shall England Die ? Not merely. Is England Done ? but SHALL ENGLAND Die ? This is the question that hangs over us today, sinister, like an all enveloping mark of interrogation. And why ? Why is this earth this realm, this our island England thus sinking in the shadow of the valley at eve ? Because she has forgotten that she is essentially

AN AGRICULTURAL COUNTRY.

Look at the days of England's greatness, when wool was the staple industry, when wheat was exported, and when the sturdy yeoman drank his two quarts daily. Look at England now ! What do we see ? It all depends, of course, where we live ; but even if we have the all-seeing eye of the ubiquitous pressman we shall not see what we should see—the merry farmer, plump and jovial ; the groaning waggons laden with the produce of the soil ; teeming ears of grain ; the hot sun on the mellow harvest field studded with stocks, jugs of sunburnt beer, flagon of sun-kissed cider and groups of sun-browned men. You will look in vain for the lowing herd ; for the winsome dimpled dairymaid with nutbrown hair cascading down her pretty muslin frock ; for the little dog laughing at the frolicsome cow nimbly leaping over an autumn harvestmoon. Even dishes no longer run away with spoons. Spoons are so metallic now-a-days ; while cows are recorded and have lost their *joie de vivre*. The dimpled dairymaid is slim and slender, clad in a smock and breeches, and her hair, alas, no longer shields her tender neck from the cruel sun's rays. Ufods, however, are an effective substitute, but the farmer also is under a cloud. Clearly

SOMETHING MUST BE DONE.

But what ? That is what I have been touring the world to find out for you. *It all depends on Agriculture.* England is suffering from commercial indigestion. It is all a question of Food. Make England self-supporting in the matter of food, and all her ills are cured. When England feeds her hardy sons of rustic soil, then she will be able to feed her hardy sons of rustic soil. Nourish the earth, and the earth will nourish you. There is no waste in nature. There is

NO GROUND FOR COMPLAINT.

There is no waste in Nature. Therefore the waste spaces in England are not really waste. This has long been known to Science, but Science is almost unknown to rural England. It was long foretold that Science applied to Industry would revolutionise industrial commerce. So successful has this been that many industries have been able to release employees from their service. The Shipping and Steel and Iron industries in particular have freed thousands of men from other useful service in the State and the coal industry has contributed many thousands more.

But it has never been realised that all these thousands of men and women—callously lumped together as Unemployed—are free from work in Agriculture. Every man of them is a potential ploughman and every woman a potential dairymaid. The four crucial questions in England today are Coal, Housing, Shipping and Agriculture, and no one has realised

AGRICULTURE CAN SOLVE THEM ALL.

How ? By engbling England to feed herself. To-day four-fifths of England's food is imported—that is, brought her in ships. Make England self-supporting in food, and about one-quarter of her shipping is relieved from carrying food. Thus, ships are freed from going into dock and the empty dockyards will be filled with ships, all busy undergoing overhaul and re-equipment for the Great Revival. Ships require Steel, steel requires iron, and iron requires coal to turn it into Steel. And all this helps the L. and N. E. Railway. Railway shares go up. People rush to buy them. Railway shares go higher. The stock Exchange booms. The boom is broadcast by the B. B. C. who instal a specially manufactured microphone ; interest in wireless is stimulated. In short, trade stops stagnating and begins to trade. This is the first

ACHIEVEMENT OF AGRICULTURE.

Shipping and allied industries are on their keels. But what follows? The ball of revival has been started and gathers momentum as it rolls. One of the first facts that Science teaches us about Agriculture is that the rural worker must have cheap power. The scientific term for this is Electricity. Thus the revival of Agriculture implies the electrification of England. The enormous demand created by the tremendous agricultural community makes this a financial possibility; the coal mines become centres for highly organised stations for the generations of electrical energy, and two bones of contention are painlessly removed from Party Politics. The question of Coal and Electricity are amicably settled. There remain the bugbears of

HOUSING AND UNEMPLOYMENT

which die a natural death. Apart altogether from the unprecedented revival in trade, the reorganisation of agriculture on a scientific basis absorbs a large percentage of potential ploughmen and dairymaids. This automatically reduces pressure on the towns. There is a shifting of population from urban to rural districts which releases many valuable houses for the homeless in the towns. The effect of thus settling the question of Unemployment and Housing need not be emphasised. Two more discords are removed from Party Politics. An immense saving in doles and subsidies is effected and the business of Parliament is so reduced that a large number of M. Ps. can be released to return to the country to work on the land. Income tax is reduced to sixpence in the pound and the Penny postage is restored. *And all because England has remembered—scientifically—that she is an agricultural country.*

England must cultivate—CULTIVATE. England must look to her laurels, her sugarbeet and her mangold wurzels. England must bend her back to the land. When will England wake up and realise that LIFE IS ALL A DREAM?

(From Cambridge University Agricultural Society Magazine Vol. 1 No. 3. 1926.)

J. B. A.

IT PAYS TO PAY!

By

B. SEEBOHM ROWNTREE.

To talk about "economy" satisfactorily, it is necessary to take the word in its broad sense. As we know, the real meaning of the word is house-management. A good housewife will sometimes save, sometimes spend, sometimes buy cheap things and sometimes dear things. But the real province of her economy is not hoarding, but the wise use of all the resources at her disposal.

So it is with the nation, and I must approach my subject from a national standpoint. For the attitude of a right-thinking man must be to regard every policy not merely as it affects a particular trade or individual or even one social group, but as it affects the nation. Indeed, a sound policy must go further, and aim at the advantage not only of all classes, but all nations.

I sometimes hear men say that they take no interest in politics, as indifferently as they might say that they took no interest in golf. But politics are not an end in themselves; they are simply a machine for realising ideals which cannot be realised without them. We are poor citizens and we have little enthusiasm for our own ideals if we take no interest in politics.

PRECEPT AND PRACTICE.

But our interest must be genuine and single-hearted. Adherence to a political Party, like adherence to a religious body, carries with it certain definite obligations.

There are Christians whose Christianity begins and ends at the church door, and there are people who believe in a political creed whose belief ceases when they come down from the platform.

Now, we shall all agree that it is in the interest of the community that all grades of workers should receive reasonable living wages. But we know to-day that is not the case. At the beginning of this century, it was estimated by careful investigators that one-ninth of the working-class population of England was living in primary poverty.

In other words, even if every sixpence of the earnings of the whole family were put into the common purse, and spent on the barest necessities by a housewife who knew the dietetic value of all the various foodstuffs, even if not a penny in the year was

allowed for a newspaper, a glass of beer, or a postage-stamp, the total income would still be insufficient to keep the household in a state of physical efficiency. And more than half this "primary poverty" was the result of low wages.

UNIVERSAL CHALLENGE.

If similar investigations were undertaken now, we should certainly see a substantial improvement. Nevertheless, from close study of such figures as are available, I am confident that even now millions of our fellow-citizens are living in primary poverty, much of which is directly due to low wages, and not to such accidental causes as illness or unemployment.

This state of things is a tremendous challenge to everyone, a challenge all the more insistent when we contrast the lot of our own unskilled workers with that of similar workers in America or in the British dominions.

That such poverty exists in the mother country herself not only shames a great Empire; it makes the very words mother country sound like a grim irony!

But a low standard of living among great masses of people cannot be raised by sympathy without action, or even by sympathetic action without intelligence. Under whatever form of government we live, and whatever industrial system we adopt, we are bound to face economic facts, and one of these is that we cannot get a quart out of a pint pot.

WEALTH'S RESPONSIBILITIES.

The plain truth is that the nation is considerably poorer than it ought to be. But that is not to excuse the present bad distribution. The smaller the total amount of wealth, the more desirable it is to utilise it as fairly and wisely as possible.

I am not suggesting that anyone should refrain from acquiring wealth. In the complex economic world in which we live, it is not easy to regulate the sum which we receive as investors or as manufacturers or merchants.

But to say this is not to excuse the acquisition of wealth regardless of the conditions under which it is created. If a nation, a political Party or a firm ignores that responsibility, it loses its ethical justification, and its only abiding dynamic.

I think that the sound industrialist should be prepared to say: "No return shall be paid to capital beyond its minimum wage till

Labour is receiving a reasonable living wage." By the minimum wage of capital I mean a return sufficient to keep the business in a financially healthy condition, and attract further supplies of capital as these may be required.

Labour itself should be furnished with sufficient information to enable it to judge whether employers are complying with that condition.

Of course, employers should know what the term "a living wage" implies, and should not be satisfied merely with paying current wages. I suggest that, speaking roughly, a minimum sum of about 60s. a week is necessary, at present prices, to enable a family of five to live in modest comfort in a town.

HOW TO INCREASE THE NATION'S WEALTH.

But the adoption of such a minimum for adult males would mean a very substantial addition to the wage fund, especially as the wages of skilled workers would rise in sympathy with those on the minimum scale. Therefore, we come to the question of how to increase the nation's total wealth, with a view to increasing wages.

Two of the prime requirements of British industry are a larger foreign trade and a larger home market. Now the key to the whole situation lies in lowering labour costs, as well as other costs of production, while at the same time steadily increasing the real earnings of the employees.

The higher the level of real earnings throughout the country, the greater will be the demand for goods and the greater the stimulus to production.

Consequently, the policy not only raises the standard of life directly; it facilitates many business economies which can only come about through the production of a larger volume of commodities, and strengthens our position in the foreign as well as the home market.

And the true value of the industrial administrator will be tested in the light of his achievements in this direction.

This means the installation of the best plant, arranged in the best way and under the best conditions so as to permit the smoothest flow of production.

It also means satisfactory methods of payment (preferably payment by results) arrived at on an equitable basis and guaranteed against arbitrary and unreasonable alteration.

It means taking the worker into one's confidence, and offering him both a dignified status and an equitable share of the total results of the enterprise.

GREAT OPPORTUNITIES.

It may be said that my proposals are Utopian. But anyone familiar with British industry knows how great are the opportunities for increased efficiency.

Though many factories in this country compare favourably with those to be found anywhere in the world, it is probably true that more than half the factories in England, judged by any reasonable standard, are inefficiently administered, and these are the factories which drag down the wage level.

I want to urge my fellow employers to spare no pains to bring their own factories to the highest possible point of efficiency and to spread the doctrine of efficiency far and wide among their fellow industrialists.

I believe this is the greatest service that employers can render the nation at the present time.

Every step which promotes the efficiency of industry always assuming that the workers share in the resulting financial benefits raises the people's standard of life and lowers the volume of unemployment.

And surely the development of the national well-being constitutes an appeal to effort which no true patriot can resist!

WORKING FOR THE WORKERS.

Let us work out our ideals in our factories. Let us eliminate all waste in our productive processes, whether of human labour or of material, and let us realise that by sharing our earnings on generous terms with the workers, we are not only directly advancing the welfare of the community, but we are placing industry itself upon the only foundation which will lead to permanent prosperity.

There is one other aspect of the question which we must not neglect. If we want to raise the level of wages, we must not only eliminate waste in industry, but waste in national expenditure, since all such waste renders our industrial problem more difficult.

Let us remember this in connection with expenditure upon armaments, and let us realise that in working for international peace we are not only working for something infinitely worth while in itself, but for something which will benefit the workers everywhere.

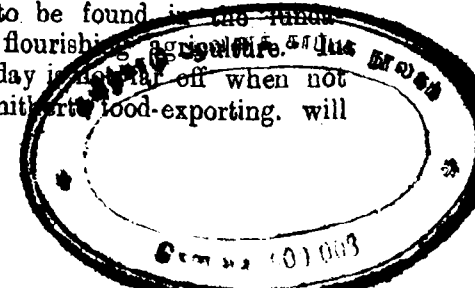
John Bull August 6, 1927.

BRITISH ASSOCIATION INAUGURAL MEETING HELD AT LEEDS ON 31st AUGUST 1927

Several aspects of agriculture in its relation to education are discussed in Mr. C. G. T. Morison's presidential address to Section M (Agriculture). He deals first with the provision of technical and vocational training in agriculture, he points out that no system can be regarded as complete which fails to make provision for the instruction of all three partners in industry; no system can be regarded as satisfactory which is not more completely utilized than at present. While the provision of technical education for the landlord and the farmer has been satisfactorily developed, the manual worker upon whose skill the economic efficiency of the business more than ever depends finds little or no opportunity for training.

It is suggested that one reason for the failure of technical education and research to produce its full effect upon the agricultural industry lies in the fact that many farmers and manual workers inevitably cease their general education too early. To obviate this it would be necessary to ensure that something in the nature of general education of university type should be available throughout the country districts, so that cultural education, apart from vocational training, could be continued to a much later age than at present. It is held that before it is possible to make a fuller use of the technical instruction which is, or can be, provided, it is necessary to arouse the desire for it; for this it is necessary to create and maintain a more receptive mind.

The present unsatisfactory condition of the agricultural industry demands some definite policy, and this can only be achieved if there is a greater understanding of the needs of agriculture by the whole population, urban as well as rural. Justification for this widening of agricultural education is to be found in the fundamental importance to the nation of a flourishing agriculture. In the opinion of certain authorities, the day is not far off when not only Great Britain but also countries hitherto food-exporting will



have to consider the framing of a definite national agricultural policy in the interests of the whole population. If Sir Daniel Hall and those who think with him are right, the time will shortly come when the demands of an increasing population will make intensification of production inevitable. That continued scientific investigation is necessary in order to produce this result will only be realised by that nation which includes some knowledge of agriculture and food production in the national education of its citizens.

It should be possible by broadening the basis of scientific education to bring it more in touch with the realities of life. This could be achieved by developing from the most elementary nature study, a conception of scientific training which would meet all the requirements of the ordinary man, and would enable him to have a reasoned and informed opinion about the most fundamental of all industries, and the various problems of the food supplies of the modern world. As a purely educational and non-vocational study, agriculture is a suitable university subject if it be not confined, as hitherto, almost entirely to the side of physical science, but developed to include a study of current agricultural conditions throughout the world, and of economic science in its application to agriculture. The world situation today demands more information on this subject among educated men; the precarious position of the industry in Great Britain demands a sympathetic understanding. Both of these demands can only be met by fuller education.

(From *Nature* Supplement dated September, 3 1927.)

NOTES.

AGRICULTURAL CONFERENCE AT NIDAMANGALAM.

In connection with the General Body Meeting of the Tanjore District Co-operative Manure Society and under its auspices an agricultural conference was held at Nidamangalam on the 28th October 1927 from 1 to 5 P. M. in the gardens of Rai Sahib A. Sethurama Ayyar, Secretary of the above society. The conference was well attended by mirasdars with their tenants and coolies. It was presided over by Mr. B. D. Anstead M. A., O. I. E., Director of Agriculture, Madras. The Co-operative, Labour and Agricultural Officers of the district were also present on the occasion. Earlier in the day, the efficacy of light iron ploughs such as the Weston and the Konkan was demon-

strated by working them along with the local country plough. Model cattle sheds wherein the box and the urine earth systems were shown were also put up for the occasion.

After the usual welcome address two papers were read on agricultural topics. Both the papers were well thought out and instructive. One of them was contributed by Mr. S. Visvanatha Ayyar, the subject being the importance of manuring and the manure problem. The other was read by Mr. Santanakrishna Mudaliar and it dealt with the importance and dignity of agriculture and the problems connected therewith.

The Director of Agriculture made a very interesting and instructive speech laying stress on the advisability of both the Agricultural and Co-operative departments working together but was not quite sure as to how this could be effected. He was sure that the Committee on Co-operation which is now sitting would solve the problem. He gave the ryots sound advice on the several agricultural improvements recommended by the department such as use of improved paddy strains, economic planting of paddy, working of iron ploughs, etc. He spoke at length on the manure problem and gave very valuable suggestions as to how it could be solved. He said that properly preserved cattle urine was the best but as its quantity was limited he suggested reduction of its usual dose to about half with a view to spreading the available quantity over a larger area. If this is done artificial manures such as sulphate of ammonia or nitrate of soda and superphosphate might be supplemented with the reduced dose of cattle manure. He illustrated the value of the above improvements with reference to the results of the demonstration areas of the co-operative Agricultural society of Mulangudi (Tanjore Dt.). He said that the application of green manure with bone-meal is cheap and effective but as the area where the green manure crops can be grown was limited in the Tanjore delta he advised ryots to pay very great attention to the collection and preservation of cattle manure, leaves etc., and supplement them with artificials as suggested above.

Some resolutions were passed the following being the most salient of them.

(1) That this conference feels it desirable that a breeding bull and a he-buffalo for service be purchased for the manure society and for such of the agricultural credit societies as can afford to go in for them and that the Government be requested to give maintenance grants.

(2) This conference is of opinion that a trained maistry having practical knowledge of agricultural methods be given to the Tanjore District Co-operative Manure Society for demonstration and propaganda work and that his salary be borne by Government or that a grant-in-aid be given to the society to engage one.

(3) With a view to raise the Adi-dravidas from the present state of economic serfdom this conference prays that the assignment of all the available cultivable lands be made mainly to them and that the supervision over the cultivation of the above lands be undertaken by the officers of the Agricultural Department.

(4) This Conference is of opinion that since necessity has been keenly felt for high standard of supervision and propaganda in Co-operative work, the B. Sc. students of the Agricultural College be selected for training in Co-operative principles and that they should be largely entertained by the Federation and the Department.

(5) Owing to the great demand for selected paddy seeds in recent years this conference is of opinion that seed union of selected practical farms be formed for the purpose of collection, storage and sale of selected seeds on a Co-operative basis.

(6) That an Agricultural middle school on the Punjab Model be started at a suitable centre near Nidamangalam.

(7) That Veterinary Hospitals be started at the Headquarters of Mannargudi and Papanasam Taluks.

A Tea party given in honour of both Mr. R. D. Anstead and Mr. Vandayar who was recently appointed as Honorary visitor of the Agricultural College, Coimbatore, brought the pleasant function to a happy close.

THE CAMBRIDGE UNIVERSITY FARM - THE POLICY.

The farm is managed with two main objects in view; firstly, as a teaching farm, where the management of land, crops and stock may be demonstrated to the agricultural student; secondly, that it may provide facilities for research to the staff of the School of Agriculture. Under the first of these headings, in addition to the regular classes, endeavours are being made to make the farm "tell its own tale." This is an attempt to break new

ground, and suggestions, especially from those who are, or have been students, will be gladly welcomed; but here again the lack of a central farm, museum or common room for the display of information seriously hinders development.

On the experimental side, variations in soil conditions make it difficult to carry out field demonstration trials of crop varieties and manurial demonstrations. Even if this were not the case; it is doubtful if such experiments are desirable. They have been repeated so many times and they are the function of country organisers rather than of the teaching farms. On the other hand, the farm does lay itself out to facilitate research where unsolved problems may be studied. For example, a part of the farm is reserved for Professor Biffen's plant-breeding experiments; plans are in progress to provide accommodation for animal feeding experiments by Professor Wood; a separate site has been devoted to the study of fecundity in pigs; the conditions for the successful practice of ensilage are being studied; studies in the control of plant diseases are being made; a portion of farm has been set aside for research in the nutrition of poultry and a horticultural research station is being developed. In each of these cases the endeavour is to gain new knowledge.

(From *C U. A. S. Magazine* Vol. I 1924).

Queensland's Wealth in Wood. As you know, the Queensland climate is characterised by pelting summer down-falls and drawn out winter droughts, during which the upper soils are sucked of their moisture by a prevailing high aridity. This state of affairs produce quite a different vegetative response to that of Europe, where the earth is thoroughly soaked by the cold rains of winter, and summer arrives merely to add warmth to an otherwise fecund soil. The moisture remains near the surface, the trees root shallowly, and moss and undergrowth crowd the floor, so that evaporation is retarded and the water is held by the forest as by a sponge. Contrast the Queensland position where the seeds fall upon the earth in a summer swelter between rain and shine with only two or three months to dig in against the on-coming droughts of winter, when the upper soils are parched. Hence you have in Queensland not the shallow rooted trees of Europe, but "dinkum" diggers which send down a tap root each into the subsoil without taking a breath, and thus duly entrench themselves against Nature. This means that only deep rooters survive and the moss and undergrowth of the soil surface are

missing except in the catchment hollows where moisture congregates and saturating the earth has an immense response under our tropical skies in the high jungles which are known to Queenslanders by the affectionate diminutive of 'Scrubs.'

These factors decide for Queensland the type and arrangement of its forests. The soft wood jungles fill the alluvial bottoms of the 80—100 inch rainfall belt fringing the long stretch of coast. They are essentially and naturally of patchy distribution standing out as softwood islands in the sea of Eucalyptian and leguminous hardwood which alone survive on the evaporated hills and plains encompassing them.

Between and between the typical hardwood forests of Queensland and the dripping jungles where congregate the Silkwoods, the Rose Mahoganies, the Beans and the Silky Oaks, is the great hill-side type of the southeastern quarter of Queensland, the Hoop and Banyan Pine forest, which, ousted from the heavy jungle by the oppression of the full-blooded, heavy, drink-drenched jungle fancy-woods, pits itself against the Eucalyptus trees of the scrub edges, battling against their shade and gradually creeping through their canopy, eventually spreads its young shoulders above the old ironbarks and condemns them in turn to gradual decline and death, save when the bush fires descend upon both and scorching the Hoop and Banyan Pines to the bone leave a borer host behind to finish them off, whilst the old Eucalyptus in their greater hardihood defy both flame and worm and put forth new green leaves giving challenge for the thousandth time to all the forces of Nature arrayed against them.

(From Queensland Agricultural Journal for September 1927.)

Influences of an Agricultural Life:—"No one doubts that our national life would be the poorer by a decline in our rural life; but it is difficult sometimes to state in definite terms the extent of the loss" comments Prof. Strong of the Leeds University. "It is well known however, that contact with the soil leads to an appreciation of nature and natural phenomena, which it is difficult, if not impossible, to obtain in any other way" he adds. "History and literature and art have shown throughout the ages that daily contact with the elemental forces of nature, breeds independence of character, virility of mind, constancy of purpose—qualities included among those accounted worth while in life. And if perchance at times these are allied with other and less desirable accompaniments, the later more often than not, are attributable

to causes which a well organised national life could remove or control."

(From Queensland Agricultural Journal for September 1927.)

Grazing areas in the West. We have great grazing areas but we rotate them and protect them from overgrazing—a matter unconceived by the people of India. And even in the section where this area is widest, our semi-arid and arid western range country, we devote three-fourths of our total cultivated ground to raising feed for our cattle. Our cotton belt gives 53 per cent of its crop area to live-stock feed, as corn, cowpeas, beans, peanuts, against 10 per cent used to grow food for man; our corn and winter wheat belt uses 75 per cent of its cultivated land to grow similar forage for its cattle; our corn belt gives 84 per cent of its crop land to forage-growing and only 16 per cent to man's food; and the North and East devote about 70 per cent of their crops to fodder. Seven-tenths of our total crop area is devoted to harvested forage. We have 257,000,000 acres in crops for cattle feed against 76,000,000 acres in crops for human food and we have one milking cow to every family of five.

(Miss Katherine Mayo in "Mother India.")

Indian Coal in 1926:—2,14,19,000 tons of coal were produced during the year of which 4,20,000 tons are estimated to have been used by miners themselves. 98 per cent of the supplies is obtained from the Gondwana coalfields and 2 per cent from Tertiary beds. The average price at the pit's mouth was Rs. 13 per ton while in other countries it has been more. 1,94,000 tons were imported into the country while 617,600 tons were exported leaving a net exportation of 4,23,600 tons. The chief countries were Ceylon—the Straits Settlements and Egypt. The estimated consumption per head of population in India is one and one-fifths cwt. a year. Railways, Iron, and Steel organisations alone consume nearly 99 per cent, leaving a very small quantity for domestic consumption.

World Sugar:—Cuba has passed her sugar bill into law. The object is to assure the stability of the Sugar industry in Cuba, to attain a reasonable remuneration price for all producers and to give to Cuba a definite control of both the production and marketing of sugar. Under the Act the president is authorised to appoint a commission of 5 members of recognised authority on sugar problems to assist him in

studying the sugar situation, the estimated production and consumption in the following year, the visible stocks and estimated requirements for the U. S. A. and for other countries. There is also the authorisation of a stock company to attend to sale, shipment, and distribution of sugar produced in excess of the requirements of Cuba and the U. S. A. Cuba has fallen into line with Java and Hawaii that have long enjoyed the advantages of a control through the organization of sugar producers.

Fruits of persistent efforts:—In 1876 some seeds of the native Brazilian rubber tree, from whence came all the world's supply of rubber at that date were brought from Para to London and taken to Kew. There they were carefully germinated and between 1877 and 1899 a few consignment of seedlings were sent to Ceylon. A batch of the resulting plants went to Singapore, where in 1881 about 1000 trees were planted. In 1899 the first small sales of plantation rubber were made in London. In 1905 one ton was exported; in 1925, 200,000 tons to a value of nearly 50 million pounds. Fifty million pounds sterling a year from these few seeds at Kew! The other side of the picture is equally notable. In 1905 the imports from this country to the F. M. S. were returned at only £140,000: in 1915 they were £940,000 and in 1925 several million pounds, while our enormous sales of Malay rubber to the United States are one of the main and now only means of paying the interest on our war debt to that country.

The story of Cocoa is equally striking. In 1879 a native returned to the Gold Coast from the Spanish island of Fernando Po with a few beans of cocoa in his pocket which he duly planted and which flourished. In 1891, twelve years later, 80 lbs. of cocoa were exported from the Gold Coast to this country. In that year the Gold Coast brought £480,000 worth of goods from this country. By 1911, twenty years later, the export of cocoa from the Gold Coast had arisen to 40,000 tons and the import goods from this country to the Gold Coast had arisen to £280,000. Last Year 226,000 tons of cocoa were exported—about one half of the world's total production—while in 1925 the Gold Coast bought over five million pounds worth of goods from the United Kingdom and so gave employment to many thousands of British workers.

(W. Ormsby Gore in his lecture at the West India Committee rooms on the 28th April 1927.)

The British Empire as an Economic Unit:—Sir Alfred Mond in an address to members of the House of Commons gave following figures.

	Country sq. miles.	Popula- tion.	No. to the mile.
U. S. A.	... 3,026,789	105,910,620	35
Europe excluding Britain	... 3,650,000	427,000,000	117
Britain & N. Ireland	... 88,000	47,157,958	536
British Empire	... 13,909,782	450,094,000	33
India	... 13,805,332	318,942,480	177

In foodstuffs the British Empire has wheat 27 p. c. of the world's production, rice, 66; cattle, 53; sheep, 51; and goats 78. Agriculture is the largest industry in the British Empire. In the Overseas Dominions nearly 80 p. c. of the population make their living out of it. The agricultural output of Great Britain is put at £225,000,000.

Indian Finances. Dr. Pramatha Nath Banerjee in his searching analysis of the finances of the Indian Government in the July number of the "Indian Journal of Economics," concludes that during the last quarter of a century of the Company's rule surpluses occurred only in seven years, while in no less than eighteen there were deficits. The aggregate amount of the surpluses was £3,700,230 and that of the deficits £21,155,023. If a larger period is taken into consideration, namely that commencing after the renewal of the Charter in 1813, it is found that during the 45 years, there were surpluses in 13 and deficits in 32 years, the total amount of the former being £8,895,437 and of the latter £62,905,287. If we go back even further and take as our starting point the year 1793, when the accounts began for the first time to be prepared for presentation to the Parliament, we arrive at a similar result. Out of the 66 years comprising the period only 18 were years of surplus and no less than 48 were years of deficit.

Vinca rosea a reputed cure for diabetes:—Each day boil twenty seven leaves in 3½ cups of water for fifteen minutes, then strain. Take one cup after each meal; one hour afterwards as much bicarbonate of soda as can be got on a six pence in half a glass of warm water. Diet consists of all green vegetables, meat etc., and some apples. Avoid ordinary bread.

In South Africa Mr. E. E. Whyte, the discoverer of the value of Vinca in diabetes, has put a proprietary medicine termed "COVINCA" for which it is claimed that eight out of every ten cases of sugar diabetes will find the use of insulin and strict dieting unnecessary.

(Queensland Agri. Jnl. 1st October 1927, P. 355). K. K. R.

The Indian officers' association agricultural section :—
Extracts from the report for the year ending November, 30, 1927.

The year began with 45 members on the role and on 30th November the strength was 43.

During the year two socials were held one in April and the other in July on the occasion of the visits to the Agricultural College, of the Hon'ble Mr. A. Ranganatha Mudaliyar, Minister and the Hon'ble Sir C. P. Ramaswami Ayyar Law Member respectively.

The annual meeting was held on 30th November when 3 resolutions were passed and forwarded to the Central Association Madras for being dealt with in due course.

Office bearers for the coming year were then elected:—
C. Tadulingam (President); T. V. Rajagopalachari (Secretary);
B. Viswanath, T. V. Subramanya Ayyar and K. Krishnamurthi Rao members.

Against a total demand of Rs. 641-6-0 from members whose names were borne on the list of this section, Rs. 367 were collected.

Resolutions "1. That in view of the fact all other gazetted officers in the department—direct recruits to the Indian Agricultural service, Madras agricultural service officers promoted to the Indian Agricultural services and Upper subordinates promoted to the Madras Agricultural service are allowed to start on the minimum pay of the grade and to draw their increments during their probationary period, this meeting requests the Government to extend these privileges to direct recruits to the Madras Agricultural service also and allow them to start on Rs. 250, i.e., the minimum pay of the grade and draw their increments during the probationary or officiating period.

2. The meeting of the Indian Officers, Association considers that the number of appointments in the several grades of the

Upper subordinate cadre in the agricultural department is low disproportionately to the total number of posts, resulting in stagnation and hardship and therefore requests that this state of affairs be remedied by increasing the proportion of appointments in the higher grades so as to bring it up to the level contemplated in G. O. No. 1389 Dev. dated 7th October 1922 or by adopting a uniform timescale like the one that obtains in the Punjab, Burmah and Pusa (Rs. 100-10-200-10-300.)

3. This meeting begs to add that a resolution on the same subject submitted last year has not received any consideration from Government and requests that they will be pleased to take early steps in the matter.

SCIENTIFIC SECTION.

Grade.	Per cent- age as per G. O.	Total No. of posts in 27-28.	Proportionate No. of posts on the total.	Actuals.	Difference.
I	8		5	2	—3
II	12		8	8	—5
III	15	67	10	5	—5
IV	21		14	12	—2
V	44		32	47	+15

AGRICULTURAL SECTION.

I	8		11	4	—7
II	12		16	8	—8
III	15	137	20	11	—9
IV	21		28	11	—17
V	44		62	103	+41

Copies of the above three resolutions were also forwarded to the Director of Agriculture Madras.

OCTOBER RAINFALL IN MADRAS.

No. of Stations.	Districts.	First Half.	Second Half.	Mean average month.	No. of rainy days.	Mean average rainy days.
16	CIRCARS—Ganjam (Littoral).	3'14	0'21	7'45	3'1	6'9
17	Vizag do.	2'31	0'05	6'90	3'5	7'2
14	East Godavari Plains	1'97	0'47	7'82	4'6	7'6
8	West Godavari	2'07	0'48	6'45	4'5	7'2
13	Kistna	2'79	0'43	6'06	4'6	6'8
16	Guntur	1'95	0'61	5'94	4'7	6'3
15	DECCAN—Kurnool	2'21	0'02	3'92	3'8	5'2
11	Bellary	1'35	...	3'89	3'2	5'7
14	Anantapur	1'67	...	3'97	2'6	5'7
11	Cuddapah	2'56	0'11	5'15	3'7	6'7
16	CARNATIC—Nellore	2'02	1'27	8'71	5'4	8'0
14	Chingleput	1'70	1'37	9'83	4'6	9'2
1	Madras	0'77	1'69	11'15	7'0	9'9
17	South Arcot	1'99	1'60	8'66	4'5	8'8
13	CENTRAL—Chittoor	1'73	0'32	6'02	2'9	7'9
16	North Arcot	2'15	0'43	6'26	2'9	8'2
21	Salem	0'53	0'80	6'07	3'2	9'0
20	Coimbatore	0'16	3'56	...	4'6	...
1	Kollegal	0'18	...	7'10	...	9'5
16	Trichinopoly	0'52	1'71	6'78	4'0	9'1
11	Pudukota	0'30	1'42	5'94	3'5	8'1
26	SOUTH—Tanjore	1'26	1'75	7'94	4'7	9'4
15	Madura	0'30	3'72	7'35	5'5	9'9
20	Ramnad	0'33	5'03	6'95	7'0	8'7
21	Tinnevely	0'17	5'35	6'66	8'2	8'5
6	HILLS—Ganjam Agency	4'78	0'04	5'62	3'5	6'8
11	Vizag do.	4'43	0'17	4'09	4'1	5'9
5	East Gadavari	2'31	0'66	5'44	5'2	6'6
1	Kodaikanal	0'43	4'35	11'31	8'0	15'6
1	Yercaud	3'44	2'11	9'60	6'0	11'8
11	The Nilgiris	0'26	5'76	10'14	7'50	13'8
1	Anamalais	0'90	3'01	...	11'0	...
10	WEST COAST—Coorg	0'92	0'55	8'58	3'9	12'7
11	South Kanara	4'78	0'51	8'65	5'1	10'6
25	Malabar	1'37	2'14	10'57	7'2	12'7
6	Cochin	1'30	4'06	11'88	9'8	12'53
	Devikulam	1'02	5'95	12'56	8'9	15'6
14	Kottayam	2'03	5'05	13'89	10'6	15'3
21	Quilon	1'02	5'01	13'04	10'4	14'9
31	Trivandrum	0'16	6'59	10'08	10'0	12'7

N. B.—Rainfall figures in inches.

NOVEMBER RAINFALL IN MADRAS.

No. of Stations.	DISTRICTS.	First Half.	Second Half.	Mean average month.	No. of rainy days.	Mean average rainy days.
16	CIRCARS—Ganjam (Littoral).	4'31	0'01	2'70	3'0	2'5
17	Vizagapatam do.	4'31	0'37	2'70	4'4	3'1
14	East Godavari Plains	7'52	0'01	3'86	5'4	8'7
8	West Godavari	6'74	...	3'07	5'4	3'5
13	Kistna	7'87	0'01	3'12	6'6	3'4
16	Guntur	11'54	...	3'66	8'0	3'9
15	DECCAN—Kurnool	4'74	...	1'65	4'6	2'8
11	Bellary	3'35	...	1'48	4'8	2'4
14	Anantapur	4'14	0'05	2'02	5'6	3'5
11	Cuddapah	5'89	0'34	3'89	6'9	4'9
16	CARNATIC—Nellore	16'56	0'32	9'02	11'3	7'4
14	Chingleput	11'96	0'87	12'30	12'5	10'1
1	Madras	13'79	1'43	13'61	13'0	10'9
17	South Arcot	8'41	1'75	10'93	10'5	9'8
13	CENTRAL—Chittoor	5'78	0'32	6'16	9'7	7'0
16	North Arcot	5'59	0'56	6'10	9'1	7'1
21	Salem	3'04	0'24	3'97	6'6	6'0
20	Coimbatore	5'81	0'29	...	7'6	...
1	Kollegal	1'42	...	2'69	5'0	4'3
16	Trichinopoly	4'49	0'58	5'80	8'3	7'6
11	Pudukota	4'65	0'39	5'87	7'3	7'8
26	SOUTH—Tanjore	6'00	0'84	12'19	8'0	11'1
15	Madura	7'29	0'60	5'71	9'3	8'2
20	Ramnad	6'85	0'30	7'01	7'9	8'8
21	Tinnevely	6'91	0'47	7'89	7'5	9'8
6	HILLS—Ganjam Agency	1'45	...	1'52	1'8	2'1
11	Vizag do.	1'38	...	1'31	2'7	2'1
5	East Godavari Agency.	6'03	...	1'79	4'8	4'4
1	Kodaikanal	8'66	0'24	8'34	11'0	12'0
1	Yercaud	3'34	0'66	6'72	11'0	8'8
11	The Nilgiris	5'38	0'63	6'80	9'7	9'3
1	Anamalais	6'58	0'61	...	11'0	...
10	WEST COAST—Coorg	2'85	0'02	3'79	5'7	5'7
11	South Kanara	8'02	0'07	3'27	7'8	4'5
25	Malabar	5'77	0'05	5'50	6'2	6'7
6	Cochin	3'05	0'11	6'37	6'3	7'5
	Devikulam	8'04	0'74	8'94	9'8	12'6
14	Kottayam	3'77	0'10	8'11	5'8	10'0
21	Quilon	4'37	0'30	9'0	6'8	11'2
31	Trivandrum	4'17	0'73	8'63	7'5	11'4

DECEMBER RAINFALL IN MADRAS.

No. of Stations	Districts.	First Half.	Second Half.	Mean average month.	No. of rainy days.	Mean average rainy days.
16	CIRCARS—Ganjam (Littoral.)	...	...	0.84	...	0.8
17	Vizagpatam (Do.)	...	...	0.83	...	0.7
14	East Godavari Plains	...	...	0.50	...	0.6
8	West Godavari	...	...	0.25	...	0.4
18	Kistna	...	...	0.86	...	0.6
16	Guntur	...	...	0.81	...	0.8
15	DECCAN—Kurnool	...	...	0.80	...	0.5
11	Bellary	...	...	0.20	...	0.4
14	Anantapur	...	...	0.25	...	0.6
11	Cuddapah	...	...	1.00	...	1.6
16	CARNATIC—Nellore	0.07	...	2.76	0.8	2.7
14	Chingleput	1.75	0.79	4.87	4.4	4.5
1	Madras	1.94	0.39	5.85	5.0	5.1
17	South Arcot	1.74	0.75	5.23	5.9	5.0
13	CENTRAL—Chittoor	0.06	0.01	1.93	0.2	2.7
16	North Arcot	0.49	0.05	2.46	1.8	3.1
21	Salem	0.23	...	1.10	0.9	2.2
20	Coimbatore	0.46	...	...	1.4	...
1	Kollegal	...	...	0.58	...	1.2
16	Trichinopoly	1.25	0.01	2.61	2.8	4.0
11	Pudukota	1.13	...	3.02	2.5	4.4
26	SOUTH—Tanjore	1.78	0.99	6.98	5.4	7.2
15	Madura	1.70	0.02	2.16	2.4	3.5
20	Bannad	1.10	0.01	3.34	2.3	4.7
21	Tinnevely	1.64	0.38	4.10	2.8	5.1
6	HILLS—Ganjam Agency	...	...	0.42	...	0.6
11	Vizag Agency	...	...	0.33	...	0.5
5	East Godavari Agency.	...	...	0.21	...	0.4
1	Kodaikanal	3.22	0.06	5.08	3.0	7.5
1	Yercaud	1.38	...	3.07	3.0	4.3
11	The Nilgiris	1.13	...	2.63	2.5	3.6
1	Anamalais	0.18	0.11	...	2.0	...
10	WEST COAST—Coorg	...	...	0.58	...	1.0
11	South Kanara	...	...	0.58	...	0.9
25	Malabar	0.02	0.02	1.11	0.1	1.6
6	Cochin	0.12	...	0.98	0.2	1.4
	Devikulam	0.89	0.06	2.34	1.7	4.0
14	Kottayam	0.26	0.11	2.20	0.9	2.9
24	Quilon	0.58	0.27	2.26	1.7	3.5
31	Trivandrum	0.46	0.12	2.62	1.4	3.7

Agricultural College, Coimbatore.

Meteorological Observations.

NOVEMBER 1927.

Date.	Barometric pressure reduced to 32°F Inches.	Wind velocity per hour (Miles)	Maximum shade temperature	Minimum shade temperature	Rainfall in inches.
1	28.476	2.5	89.0	65.3	...
2	28.440	3.6	87.2	71.3	...
3	28.535	4.4	86.6	67.5	...
4	28.575	2.3	87.8	72.1	...
5	28.547	3.2	82.5	70.6	0.84
6	28.546	2.7	83.8	70.7	0.14
7	28.566	1.7	77.4	70.3	1.05
8	28.549	2.5	81.8	69.2	1.14
9	28.551	1.6	82.2	71.2	1.81
10	28.565	2.2	81.2	69.7	1.50
11	28.569	2.9	82.7	70.6	...
12	28.571	3.0	84.5	70.2	0.08
13	28.501	1.5	84.5	70.7	Drizzle
14	28.469	2.3	86.1	70.4	...
15	28.494	3.2	86.1	68.6	...
16	28.568	2.0	86.1	66.8	...
17	28.576	2.1	86.0	70.2	...
18	28.597	2.6	85.7	70.1	0.06
19	28.601	2.3	82.7	69.8	Drizzle
20	28.628	2.8	83.8	67.7	...
21	28.618	2.3	82.7	64.5	...
22	28.582	2.5	83.2	63.3	...
23	28.592	2.1	84.9	66.3	...
24	28.606	2.0	84.3	70.9	...
25	28.620	2.3	86.9	69.8	...
26	28.638	2.8	85.2	63.4	...
27	28.594	2.5	86.1	65.8	...
28	28.656	2.7	84.1	62.7	...
29	28.654	3.2	83.7	66.2	...
30	28.654	4.9	85.1	70.1	0.05

Agricultural College, Coimbatore.

Meteorological Observations.

DECEMBER 1927.

Dates.	Barometric pressure reduced to 32° F inches.	Wind Velocity per hour (Miles.)	Maximum shade temperature.	Minimum shade temperature.	Rainfall in inches.
1	28.669	4.7	80.2	69.6	0.41
2	28.665	4.6	81.7	67.0	Drizzle.
3	28.681	4.7	82.8	68.2	0.03
4	28.608	3.3	76.8	69.2	Drizzle.
5	28.610	3.1	84.1	70.8	...
6	28.621	3.3	84.3	65.5	...
7	28.652	6.2	83.7	68.7	0.26
8	28.663	4.9	77.2	62.4	0.02
9	28.597	3.8	82.6	65.2	...
10	28.601	2.8	84.7	67.7	...
11	28.602	2.2	84.8	67.6	...
12	28.612	2.3	85.9	68.5	...
13	28.604	2.9	86.3	68.7	...
14	28.594	2.1	84.5	66.7	...
15	28.592	2.7	85.0	66.8	...
16	28.606	2.2	85.3	63.4	...
17	28.612	3.1	84.1	65.8	...
18	28.622	2.2	84.4	63.3	...
19	28.604	2.2	85.7	69.5	...
20	28.618	1.9	85.5	68.2	...
21	28.633	3.9	87.3	70.1	...
22	28.640	3.1	86.0	65.5	...
23	28.644	2.1	87.0	67.5	...
24	28.644	4.0	83.5	69.0	...
25	28.646	2.6	86.2	63.5	...
26	28.667	3.9	86.0	61.0	...
27	28.664	3.7	86.0	63.0	...
28	28.648	2.6	87.0	59.0	...
29	28.646	4.5	87.5	59.5	...
30	28.661	3.4	85.8	63.0	...
31	28.659	3.7	85.5	60.0	...

CORRESPONDENCE.

IMPERIAL COLLEGE OF TROPICAL AGRICULTURE, TRINIDAD.

To

4th December 1927.

THE EDITOR,

Dear Sir,

A recent transfer has brought me to the above address where I have now been for a couple of months, for I arrived a day or two before term opened on the 10th October. Naturally, being back again at a teaching institute, though not in the same capacity as before, for here I am Professor of Agriculture, a post which includes the management of the small farm attached to the College, my thoughts revert to the Agricultural College at Coimbatore and though comparisons are odious, yet one cannot at times help contrasting the two places. Certainly, Coimbatore has the advantage in the way of buildings, land and general facilities, although it must be remembered that this place has only recently started and that it is by no means, yet complete.

But what I wanted really to write to you about, was to give you two illustrations of the way the reputation of the Coimbatore College rests on the quality of the work it turns out. Some years ago, when I first went to Tanganyika, I left Daar Salam, within less than a week of arriving by foot for the experiment station of Mayanganya, which lay some 120 miles away, across country about which I could get little information and among natives whose language I did not understand. After a week's sojourn, during which I got quite realistically lost, I arrived one day on the banks of a large river—the river Rufigi, and gathered from the interpreter that I was to cross this river in a very fragile looking canoe which was waiting there, and that my destination was the other side. I crossed and climbing up the bank, found evidence of civilization in a straight road leading up to a bungalow in the distance. Thinking this must be the place I went on up the road, where suddenly on one side I saw a label "Cambodia from Madras" and never did a plot label seem so welcome; it told me that I had reached Mayanganya. On enquiry I found this was a Coimbatore strain, either one of my own, or more probably one that Mr. Sampson had raised at Pollachi.

Now for the other side of the world. Three days after landing at Trinidad, I was out with the Principal and a party of students. Going through a large sugar estate on the island, where I was struck with a nice looking patch of cane which had flowered very profusely, (flowering is more common here with all varieties than in India) and on enquiry was told that this was Coimbatore cane. And so again, it was inspiring to think that the name of Coimbatore was known so widely, for I also remembered that some unit-strains of cholam were being tried in South Africa, and to be sure that with workers like Mr. Sampson and Mr. Venkatraman, behind them these productions were going to enhance the reputation of the College. Such productions may not always be suitable. Cambodia was definitely unsuitable in East Africa, at least that strain was and the canes are still being tested, but so long as they are what they claim to be, the result of careful and honest work, carried out on correctly arranged lines they can do nothing but add to the reputation which, as I have shown in this letter, the College has in many distant lands.

To
The Editor
4th Dec. 1927.

I am, Dear Sir,
Yours faithfully,
R. CECIL WOOD.

COROMANDEL COAST.

Mr. Pritchard, Editor, Journal of Agriculture, Adelaide, South Australia writes.

I was much interested in your letter of August 25th, and forwarded it to Mr. Cockburn, Parliament House, Adelaide, a well-known authority on the nomenclature of South Australian towns, districts etc. He has forwarded me the following statement which may no doubt interest you.

"Many thanks for your courtesy in forwarding on to me the letter received from the Editor of the journal of the Madras Agricultural Students' Union, concerning a possible connexion between the Coromandel valley in South Australia with Indian interests.

I could fill several pages of your well conducted journal with the history of our Coromandel valley. Suffice it to say that on January 12, 1837 the ship "Coromandel" 662 tons (William Chesser Commander) arrived at Hold fast Bay under orders from

the colonization Commissioners for South Australia, having sailed from Deal on September 9th, 1836. She had 156 passengers for Adelaide, a general cargo and a special consignment of Government stores, besides bank notes and spices to the value of £ 10,000. Two members of her crew deserted when the vessel touched at Kangaroo Island. Ten more sailors deserted when the mainland was reached, and hid, and eventually settled in that part of the Mount Lofty ranges bush which ever since has borne the name of Coromandel valley. They commanded a fine view of the gulf and had the satisfaction of seeing their vessel sail away without them. Captain Chesser addressed a letter to His Excellency Governor Hindmarsh pleading with him to employ the resources of the Government in an effort to recapture the runaways. The Governor was thoroughly sympathetic but the constabulary was so poorly organised in those early days, that the "Coromandel" had to sail without the ten sailors being taken.

Captain William Chesser afterwards settled in Australia. I believe he died in Melbourne, but am unable at the moment to lay my hands on that point in the mass of my nomenclatural records. I know that the name of his vessel and his own name are today perpetuated in the street nomenclature of Adelaide (Coromandel Place and Chesser Street).

In his letter to Governor Hindmarsh dated 14-2-1837 Captain Chesser states incidentally that he was bound by his charter party to be at Calcutta, India, by April 1st, 1837.

From the foregoing you will note that the name Coromandel valley was derived from the ship and it was not directly concerned with Indian interests. It is possible that the ship may have derived its name from your seaboard.

Mr. Summers, Secretary, Minister of Agriculture, Adelaide, South Australia, writes as follows:—

The editor of the journal of Agriculture has shown me your letter of the 25th August in reference to the name Coromandel. This was very interesting to me as I have lived in the district for over 25 years and have taken some interest in trying to trace the derivation of the name.

The facts given in the Editor's letter on the authority of Mr. Cockburn are correct, but I think the name is directly concerned

with Indian interests, as it has always been understood that the ship "Coromandel" belonged to a firm interested in the Indian shipping trade and that she herself traded to India before bringing immigrants to Australia. It seems therefore almost certain that the name of the vessel was derived from the Coromandel coast.

Your suggestion that the name Coromandel is a corruption of the term "Cholamundalum" is interesting. In our maps of Eastern India the name "Coromandel" is followed in brackets by the name "Karimanal" and we have been under the impression that this was a native name and the Coromandel was the Portuguese or English corruption of the same, but a friend of mine tells that he feels certain that "Karimanal" is not a Portuguese word.

It might interest you to know also that in the north Island of New Zealand there is a county and town known as Coromandel, and the passage between the northern part of this count and a small island is called the Coromandel passage.

Whether in this instance the name was derived from the ship "Coromandel" I have not been able to ascertain. The ship herself ended her career like so many other British sailing ships, passing first into foreign hands and ending up as a hulk.

THE LATE MR. JAMES MOLLISON.

Mr. J. Mollison, Lonsdale House, East Grinstead, a distinguished colonial agriculturist passed away at his residence on 11th inst. aged 70 years. The eldest son of the late Mr. J. Mollison, who for 16 years was factor and commissioner on the Dochfour Estate, Inverness-shire, deceased entered the Royal Agricultural College at Cirencester in 1877. Towards the end of his full two years' course of study he passed the examinations of the Royal Agricultural Society of England—the only successful candidate out of the thirteen, and gained the society's diploma and free life membership, and finally carried off the diploma and gold medal of the R. A. College. After a few years of probation as a land agent and farmer in Southern England, he spent three years in charge of one of the largest horse and cattle ranches in Western Canada. In 1890 he was appointed superintendent of farms in the Bombay Presidency, and seven years later he was created Deputy Director of Agriculture. In 1901 he was appointed Inspector General of Agriculture in India. In recognition of his valuable services he was created a Companion of the Star of India in 1911. A year

later he retired. On 23rd March Mr. Mollison had conferred on him by the University of Edinburgh the honorary degree of Doctor of Laws in recognition of his valuable work and distinguished career as Inspector General of Agriculture in India.

(The Scottish Farmer October 22nd 1927.)

DEPARTMENT'S WORK—OFFICIAL DIGEST Nos. 60 to 62.

JUNE.

Weather:—The South West monsoon was active on the West Coast throughout the month, with occasional breaks, and gave timely and sufficient rainfall. The Circars (Kistna excepted) received good and fairly well distributed rainfall about the middle of the month. There were good showers in most of the other districts. The rainfall in the month was up to or above the average generally in most districts.

Irrigation supplies were inadequate in parts of the Deccan, the Carnatic, and the Central districts and most of the rain-fed tanks were empty or contained only small supplies. Supplies were also inadequate in some of the tanks in Guntur, the upland areas of West Godavari, Kistna, and Tanjore, the non-Periyar areas of Madura, and part of Ramnad, and Tinnevely. The freshes in the Godavari, Kistna and Cauvery gave ample irrigation water to the deltaic tracts. Standing crops were generally fair but dry crops in parts of Coimbatore were adversely affected by drought.

There was an improvement in prospects, particularly in the Deccan.

Exhibitions:—The annual Cattle and Pony Show was held at Tiruppur during the month under the auspices of the Coimbatore District Agricultural Association. The Bellary Loan and Sale Co-operative Society convened a meeting at the Hagari Agricultural Experiment Station when an agricultural exhibition was held. Venkatagiri and Kavali both in the Nellore district had also similar exhibitions. In all the four places departmental exhibits were put up and demonstrations given.

Waltair circle:—In a lowlying field in the Anakapalle station, a variety of swamp paddy was planted to serve as a demonstration to ryots in the neighbourhood of the Kondakarla tank about 5 miles near. 161 villages were visited during the month and advice given. 51332 lb. of paddy seed, and 4877 lb. green manure seeds were distributed and 14 iron ploughs sold.

Guntur circle:—The district staff visited 88 villages and in the delta area of Guntur 6,000 acres were under daincha, the whole extent being confined to the Repalle taluk.

Bellary circle:—Arrangements were being made to run a departmental demonstration area in Hospet to show the possibilities of improved methods of cultivation and preparation of jaggery. A number of ploughing demonstrations were held. 60 villages were visited.

Madras circle:—Demonstrators visited 263 villages this month. Drill sowing with cumbu was demonstrated on 30 acres in 6 villages in the Tiruppathur taluk. 15 ploughs, 2464 lb. bonemeal, 14000 lb. of sulphate of ammonia and 672 lb. of superphosphate were sold.

Trichinopoly circle:—183 villages were visited and 41 ploughs 6718 lb. of paddy and 2201 lb. of green manure seeds and 59 tons of manure were sold.

Madura circle:—Visits were paid to 204 villages during the month.

West Coast circle:—Demonstrators paid a visit to 177 villages. 6724 coconut seedlings and 2060 seednuts were supplied to applicants.

Coimbatore Salem circle:—District officers visited 160 villages.

Cattle Farms:—Two inches of rain at Hosur kept young crops alive; an inch and a half enabled field work to be done at Chintaldevi, but a similar quantity at Guntur proved insufficient. 43 cows and 17 she-buffaloes were covered by stud bulls in different centres.

Miscellaneous:—Mr. R. D. Anstead, the Director, toured in the Trichinopoly circle in order to meet members of agricultural co-operative societies and discuss future lines of work. He visited Nerur, Kattuputhur, Musiri, Tirichettipalayam and Lalgudi.

JULY.

Weather. The south-west monsoon continued to be active on the west Coast and the Hills throughout the month and gave timely and sufficient rainfall. The Circars and Nellore had fairly well distributed rainfall in the first three weeks. There was a good rainfall in the Deccan in the third week. In most of the other districts the rainfall was poor. The rainfall in July

was up to or above the average in the Circars except Ganjam the Deccan, Nellore, the West coast and the Hills.

Irrigation supplies were generally sufficient for standing crops in the Circars, Kurnool, Tanjore, the Periyar area of Madura the West Coast and the Nilgiris. The partial supplies received so far in parts of the other districts cannot be said to be adequate.

Standing crops were generally good.

There was an improvement in prospects particularly in the Deccan. Prospects were not quite satisfactory in Chittoor Chingleput, parts of Nellore, and the non-Periyar area of Madura.

Exhibitions were held during the month at Periapalayam (Chingleput) Mailam and Chidambaram and in Salem.

Lectures and demonstrations were given at Muthulapuram and Sattankulam.

Waltair circle:—The district officers visited 150 villages and advocated several improvements.

Guntur circle:—106 villages were visited during the month. 10 ploughs were sold.

Bellary circle: The staff visited 64 villages.

Madras circle:—Demonstrators paid a visit to 200 villages 2492 lb. of greenmanure seeds were sold and a large number of demonstrations were given with ploughs and roll easy mhothe wheels. At Palur irrigated groundnut gave about 2000lb. unshelled nuts per acre

Trichinopoly circle: Demonstrators visited 189 villages.

Madura circle: District officers paid a visit to 224 villages and one agricultural demonstrator was lent to the Co-operative department in connexion with the Co-operative Cotton sale society at Koilpatti.

West Coast circle: Arrangements were made to start paddy seed depots at Maruthai and Ambilat and district officers visited 140 village and a campaign against the paddy grasshopper was conducted with the help of the Entomological section.

Coimbatore Salem circle: Officers visited 143 villages. Cotton seed farm work was practically completed; a number of ploughing demonstrations was given; 6466 lb. of green manure seeds and 4842 lb. of paddy seed were sold.

Cattle Farm:—Grass seeds were sown at Hosur with a definite programme of experiments. 37 cows and 8 buffaloes were covered by stud bulls.

Miscellaneous:—The Director continued his tour in the Trichinopoly circle and on 1st July he inaugurated the Marudur Anstead Co-operative society at Marudur and opened a demonstration farm of 20 acres. Next he met the mirasdars at Tirukattupalli and the agricultural association at Kumbakonum. He then went to Mayavaram and Mulangadi and finished with addressing a meeting of the Co-operative agricultural society at Tanjore.

AUGUST.

Weather:—In the Circars the rainfall in August was satisfactory and fairly well distributed. On the West Coast, the rainfall was poor in the first week but fairly satisfactory afterwards. In most of the other districts, good rains were received in the first week but there was very little rainfall afterwards on the whole. The rainfall in the month was up to or above the average in the Circars, Salem, and the south (Tanjore excepted) and on the West Coast; it was poor in the other districts, especially in Bellary, Anantapur, South Arcot, Chittoor and Tanjore.

Irrigation supplies were generally sufficient for standing crops in the Circars, Kurnool, Coimbatore, the river-fed areas of Trichinopoly, Tanjore, the West Coast, and the Nilgiris and inadequate in parts of the other districts.

Standing crops were generally fair but dry crops in parts of Kurnool, Bellary, Chittoor and Salem were adversely affected for want of rains.

Prospects were not quite satisfactory in parts of the districts of Bellary, Anantapur, South Arcot, Chittoor and Tinnevely and in parts of the non-Periyar areas of Madura.

Exhibitions:—During the month the department took an active part in the rural exhibition held at Madras by the Y.M.C.A. under the auspices of the Students' Association for Rural Service and in other exhibitions and fairs at Salem, Sankarankovil, Hagari, Tanjore, Periyapalayam and Ramanathapuram.

Waltair circle:—148 villages were visited. At Anakapalle cumbu harvest was in full swing.

Guntur circle:—89 villages were visited and 81 ploughing demonstrations were given.

Bellary circle:—In the Kurnool district there was heavy rain; Sowing of Korrapatty was completed and of pure cotton begun. District officers visited 133 villages in the circle and 314,033 lb. of cotton seed was distributed.

Madras circle:—A new school farm was started near Kalahasti. The Agricultural demonstrators visited 208 villages; 43 ploughing demonstrations were given and 42 ploughs sold. At Palur under the short or Java system of raising sugarcane setts, 8 cents supplied enough setts to plant 44 cents.

Trichinopoly circle:—280 villages were visited by Agricultural demonstrators.

Madura circle:—Officers paid a visit to 215 villages.

West Coast circle:—209 villages were visited and ryots advised.

Coimbatore—Salem circle:—Officers visited 309 villages.

Cattle Farms:—31 cows and 22 buffaloes were served during the month.

REVIEWS.

JOURNAL OF THE CENTRAL BUREAU OF ANIMAL HUSBANDRY AND DAIRYING.

We welcome the publication of this useful quarterly devoted to the cause of the animal population in this country. Published under the auspices of the Central Department of Agriculture in India, it should command much more popularity and receive better recognition than periodicals of this kind issuing under a non-official agency. This forms almost a companion to the Agricultural Journal of India which is edited by the Agricultural Adviser to the Government of India and is issued from Pusa. The three numbers of the current volume that have been lying with us indicate a variety of matter and a choice of subjects that should engage the attention of every cattle-owner. Dealing more with practical problems in animal husbandry and rightly relegating

questions of more fundamental and theoretical importance to the older journal this periodical should appeal better to all lovers of cattle. It is needless to say that agriculture in India is bound up with the maintenance of cattle; whatever other countries may boast it is the proud privilege of India to revere the cow and through her, care for her progeny, both for work and milk. With a cattle population of 33 million and peasant proprietors several times larger the question of cattle is the main question in Indian agriculture.

We often find that specialists treat their subject in an intensive way which however does not conduce to the popularisation of the principles they advocate nor keeps the layman fully informed on any particular subject. The necessity for a journal which can collate information touching one subject, in this case cattle, should therefore be welcome to all. We hope that this periodical will deal as well with the diseases of cattle as with their health and comfort.

The authors of several articles that have appeared during the past year are specialists in their line and some of them are eminently practical. We wish that this journal is published in the vernaculars as well, in abridged forms if necessary, and with additional matter to suit local conditions in several provinces.

Our prayer is that—as one of the greatest gentlemen farmers our present Viceroy, Lord Irwin suggests—the question of cattle in India is taken up, as in England by Zamindars and big landed proprietors who have got considerable stake in the country and who form the backbone of agriculture.

THE CARDAMOM PLANTER.

We heartily welcome the publication of this very useful journal which is run in the interests of the Cardamom planters on the Travancore hills bordering Madura district. The enterprise of the planters to run a journal of their own is a welcome feature which is rare in this country. That these planters should have come to a wise decision to maintain a journal for their own benefit bespeaks the energy and spirit of co-operation which is necessary in enterprises of this sort. That a period of depression should have stimulated them for co-operative action and should have shown them during the short period this has been in existence that “in union and self help alone lies strength” is an object lesson for those who have eyes to see and

care to think. We are gratified that this young and enterprising association composed mostly of natives of the district—mostly Tamil planters—should have the courage to ventilate their grievances in a constitutional manner to the Travancore Government within whose jurisdiction most of the estates lie and to have made their status known to the Madras Government by now and then inviting important members of the Government for their meetings—the last time, we remember it was the Law Member. This young association is, we are sure, running on right lines and has been gaining strength as much as the United Planters' Association of South India. We congratulate the board of Directors. The association of such names as that of the Zamindar of Vadagarai is a certain guarantee that the association will be run on sound lines and will gain official recognition and status. The organ of this Association is at present edited only in Tamil and we would suggest that the interests of planters would be better served by the issue of an English edition as well or a diglott edition so that traders and merchants outside the Tamil country as well as the large English knowing public may come into living touch with this association. Further we fancy the monthly would soon have to give place to a fortnightly, so that the commercial aspect of the association may also be better safeguarded.

We are glad that this journal does not confine itself to the question of cardamom alone but deals with a variety of other matters which is welcome. We once again offer our congratulations to the association and wish the Cardamom planter a long lease of life and growing strength.

SHORT STORY BY V. R. S.

THE FITTEST SURVIVE.

With the shabby many colored cloth tied round his waist, with the broad basket of fruits on his head, Amir Sahib used to go about the streets of our village crying “Mulgowa, Dadipasanth, Jilpasanth, Nilam.” The slow gait and the swinging arms indicated signs of leisure about him. A sweet smile always adored that swarthy face, and the oily countenance with the enormity of dust settled on it showed no sign of having ever had a wash. But I always saw a dim mystery in that particular twinkle in his eyes. Sometimes he spoke with them and when eyes speak I never forget them.

Our house stood at the corner of the street overlooking an adjoining meadow rendered pleasant by being luxuriantly green. At sunset when all his hawking in the village was finished, the fruit-seller had to pass through our street, for, the town road shaded by the dense foliage of the rain trees wound round the skirts of that meadow by our house. The fruitseller always stopped near it and watched us playing 'Hide and Seek.' Methought he was always observing me—only me; when I turned towards him he would laugh and close his face with his hands—just what my elder brothers did at my house. When dusk set in, and the shades of darkness fell swiftly spreading over us, he would come near me, thrust a pair of mangoes into my hands and with a last and loving look at me turn towards his town. Even while he was trudging at a distance on the road he would turn back at the bend, perhaps to take another lingering look.

Sometimes he came to our house and talked things with my mother and sisters. The youngest wore a cloth and pointing to it with his lean, black forefinger, he asked my mother "Whats the price, Amma?" "Three rupees"—"Three rupees" he heaved a deep sigh, "that is food for us for 30 days" Muttering this to himself, he cast another glance at it. That glance is still fresh before me.

A few weeks ago, I was walking along the town road that leads to our village. The music of birds filled me with thoughts of the eternal and I began to muse on things. I was not long in this state of other-worldiness when suddenly I was startled by the booming of a motor bus. Quite dazed out of mind I was;—having for long been in rural parts, my ears had forgotten the sound of autos. Pneumatic tyres whizzed past me and raised a cloud of dust in their wake. I closed my eyes for fear and the scene of a long line of weary bullock carts dragging drowsily along rose before my mind. I was filled with sorrow, I entered the village; I did not like the look of it. The smell of kerosine held the air, and the very car that a few minutes before had nearly taken my life was seen standing before the temple gates. Curls of petrol smoke rose into the skies That was incense before the god of civilization.

I was strongly seized with the desire for leaving the place as early as I would. I went to a man standing idly nearby and asked of him for the fruitseller of the village. Eyeing me with the scant

courtesy he pointed to a thatched shed erected a few yards before me. Ah, me, I was before a regular "shop." On wooden benches tier after tier, were arranged yellow, green red mangoes and pomegranates. Behind them stood a young fellow with his head neatly cropped and dressed in an Ahmadabad cloth. I went again to my kind informant. "Where is the old Sahib that used to sell mangoes hereabout? Ha, Ha, he laughed and in a tone half of mockery, half of reproach, added "You don't know it, don't you? That old fellow—"dewal, sir, Dewal." The blood was cold in my limbs and my heart stopped beating for a time. . . .

The fittest had survived—what a harsh survival."

DEPARTMENTAL NOTIFICATIONS.

NOVEMBER AND DECEMBER 1927.

Appointments, Promotions, Transfer, etc.—

Mr. N. Lakshminarasimhaswami to be Lower Subordinate 5th grade 4th circle on probation.

Mr. P. S. Maniyan, B. Sc. to be Upper subordinate Second grade—agricultural section and posted to First Circle. Messrs. N. Krishna Pillai, M. Gopala Unnithan and M. C. Menon to be Upper subordinates V grade on probation the first two posted to IV Circle and the last to work under Deputy Director, Live Stock Hosur.

*Promotions. Science Section:—*Mr. J. A. Muliya from 3rd to 2nd grade from 14th June 1927; Mr. K. M. Thomas from 4th to 3rd grade and Mr. S. Ramachandran from 5th to 6th grade Messrs. M. Sanyasi Raju Science section and S. S. Katchpeswara Ayyar Agricultural section are confirmed in their appointments.

Mr. K. Raghavacharya on return from leave posted to Third circle. Mr. S. Mahadeva Ayyar, Farm Manager Nandyal transferred to V circle Mr. K. S. Ramana Rai posted as demonstrator to the new Mangalore circle. Mr. K. Ramanathan, Demonstrator V circle resinged from 30th October.

Leave etc.—

FIRST CIRCLE :—Mr. P. V. Sambasiva Rao assistant demonstrator leave on average pay for one month and 4 days from 18th November with permission to avail of the Xmas and New Year holidays.

SECOND CIRCLE :—Mr. S. Sithapathi Rao assistant demonstrator, extension of leave on average pay for 19 days.

THIRD CIRCLE :—V. N. Subbannachar demonstrator Bellary, leave on average pay for one month from 10th November. Mr. L. Narasimbachar demonstrator, leave on average pay for 15 days from 7th December with permission to suffix Xmas and New Year holidays. Mr. K. L. Ramakrishna Rao Cotton Assistant Hagari, extension of leave on average pay for 6 days and leave on half average pay for 7 days. Mr. C. Subbarao Naidu assistant demonstrator extension of leave on average pay for 10 days. Mr. K. Ramanatha Ayyar demonstrator extension of leave on average pay on medical certificate for 19 days with permission to avail of the Xmas and New Year holidays.

FOURTH CIRCLE :—Mr. C. S. Krishnaswami Ayyar demonstrator leave on average pay for 14 days from 7th November.

FIFTH CIRCLE :—Mr. R. Govindaramayya demonstrator Lalgudy, leave on average pay for 9 days from 13th December with permission to avail of the Xmas holidays.

SIXTH CIRCLE :—Mr. K. Ramaswami Ayyar demonstrator Sholavandan, leave on average pay for one month from date of avail.

SEVENTH CIRCLE :—Mr. M. K. Nambiyar, Headmaster, Taliparamba, leave on average pay for one month and 6 days from 16th November with permission to avail of the Christmas and New year holidays. Mr. K. G. Nambiyar, Demonstrator, Calicut, leave on average pay for 10 days from 21st November; Mr. A. Gopal Nayar extension of leave on average pay for 20 days; Mr. P. Kesavanunni Nambiyar Demonstrator, Badagara, leave on average pay for one week from 15th December. Mr. P. Kannan Nambiyar, Assistant manager, Nileshwar, leave on average pay for one month from 23rd November 1927 with permission to avail of Christmas etc., holidays.

EIGHTH CIRCLE :—Mr. K. Avadanayakam Pillai, Demonstrator Coimbatore leave on average pay for 20 days from 23rd November 1927.

LIVESTOCK SECTION :—Mr. P. K. Krishnan Nambiyar, Assistant manager leave on average pay for two months from 25th October 1927. Mr. M. Alaghiriswami, Chintaldevi, leave on average pay for 16 days from 29th October. Mr. T. V. Krishnaswami Rao Manager, Hosur Cattle Farm, leave on average pay for two days from 20th December 1927 with permission to avail of the Christmas holidays. Mr. F. L. J. Lobo, Assistant manager leave on average pay on medical certificate for 20 days from 14th December 1927.

CURATOR SECTION :—Mr. K. K. Hegde assistant manager leave on average pay for 18 days from 14th December 1927 with permission to avail of the Christmas holidays.

C. S.'s SECTION :—Mr. M. S. Purnalingam Pillai sub-assistant leave on average pay for one month and 21 days from 1st November 1927. Mr. S. N. Venkataraman assistant, leave on average pay for 10 days from 12th December 1927.

P. S. SECTION :—Mr. A. Chidambaram Pillai, Manager P. B. Station Coimbatore, leave on average pay for 5 weeks from 10th October 1927. Mr. S. Ramanujam assistant, Aduthurai leave on average pay for 9 days from 27th October 1927 and for 11 days on medical certificate from 9th November 1927. Mr. C. Rajasekhara Mudaliyar, assistant leave on average pay for 6 days from 21st November. Mr. M. B. Venkatanarasinga Rao Assistant Maruter, leave on average pay on medical certificate for two months from 7th November 1927. Mr. C. M. John, assistant Pattambi, leave on average pay for two days from 20th December 1927.

G. M. SECTION :—Mr. C. Krishnan Nayar assistant leave on average pay for one month from 18th November 1927.

EDITORIAL.

I. C. S. and Agriculture :—It is essential that in every country the administrators, nay all limbs of Government should be in intimate contact with the people. It is equally essential that they speak the same language and understand the feelings and habits of the people. It is on this account that when one nation rules over another members of the ruling class are advised if not compelled to learn the language of the province in which their administrative duties lie; and in an agricultural country like India

it is desirable that officers not only learn the language of the people but also know all about the main industry on which people live. It was this motive that has now and then impelled successive Secretaries of State and also of Governments in India to insist on their subordinate officials learning as much as they can of the people and Government have in a few instances been farsighted enough to institute prizes for proficiency for languages among officials or to create facilities, or make provision, for the officials to pursue their hobbies. Nevertheless contact with the country and especially with the rural side has been getting less and less owing to the recent advances in locomotion and a desire to enjoy in places which are more attractive.

One aspect in which this could be remedied is in the opinion of some thoughtful men to include agriculture as one of the compulsory subjects for the qualifying examination for key services.

Several years ago the late Mr. W. R. Robertson, Principal of the Saidapet college, brought to the notice of the Government the colossal ignorance betrayed by a Collector in respect of certain agricultural conditions of the tract over which he was placed. Such instances have not been few and it is with this purpose that the Government of Bombay a few years ago instituted temporary agricultural training classes for young I. C. S. officers. Similar action seems to have been taken by the Punjab Government also. But generally Provincial governments have been averse to taking any definite line of action in this matter. However the imperativeness of this measure cannot be gainsaid as we believe, some governments have found it difficult to find among their civilians suitable men with scientific training for being appointed as Secretaries to Development departments. In our last number we referred to the evidence which Dr. Barber gave on this aspect of the problem before Royal Commission on Agriculture and we would emphasise that though it may not be possible to give full agricultural training to all I. C. S. officers in the provincial agricultural colleges at least special courses may be instituted for short periods in these institutes.

The Late Dr. James Mollison:—On the 11th October, passed away in his native village in Scotland, Mr. James Mollison, the first Inspector General of Agriculture in India. Coming of a family long connected with land, young Mollison showed proficiency early in life and was the only one of the thirteen who came

out successful from the Royal Agricultural College, Cirencester in 1879. Gaining some experience first in Southern England and later in one of the ranches in Canada, Mr. Mollison came out to India as Superintendent of Farms, Bombay in 1890. Under the ever fostering care of that Government which has been unique in turning to agricultural problems with some amount of alacrity and with the active support of Mr. A. Ozanne I. C. S. and Sir James Muir Mackenzie, I. C. S. who were both agricultural men, Mr. Mollison rose in popularity and in usefulness especially through his indefatigable work in connexion with the Guzerat famine by starting and working the Northcote cattle farm at Chharodi. When the opportunity came, the Government of India appreciated his services and made him the first Inspector-General of Agriculture in India, a post for which his extreme magnanimity of temper, very generous impulse and love for the profession eminently fitted him. He organised the department under the searching eye of the most exacting of viceroys—Lord Curzon—and with the appreciation of a council which was then adorned with a galaxy of Indian worthies like the late Mr. Gokhale. Mr. Mollison did his part nobly and well during the seven years he held the post and left India in 1911. The edifice he built up is sound and strong and has stood many a storm. It would be no exaggeration to say that the late Mr. Mollison was the moving spirit of the times and was mainly responsible for the provincial programmes of work in the early years of the department's existence and for the founding and running of the several agricultural colleges in this country. It was he that gave an impetus to cotton breeding, by learning first hand the technique of crossing by actual work in America. His services in India were recognised by the University of Edinburgh who in 1922 conferred on him the honorary degree of Doctor of Laws.

May his soul rest in peace!

His text book on agriculture is a standing monument to his energy and capacity for collecting information on agricultural topics. That no reprint of his work has been attempted by Bombay or other governments shows the gigantic work he did which his successors perhaps feel yet unable to do. We hope however an earlier edition of the work embracing all India will be issued from the Research Institute Pusa which alone, we feel, is in a position to do so at present. It is all the more painful when one considers that even after 30 years or more of the existence of

agricultural departments few text books or standard books on agriculture have issued. We hope better days will dawn with the issue of the recommendations of the Royal Commission which is now sitting.

Dr. Harold H. Mann :—Sixteenth of October, rather the 23rd, on which Dr. Mann sailed from Bombay was an eventful day in the history of the agricultural departments in India. Dr. Mann is one of the few agricultural officers who came out here with credentials of a superior character and a name well known in agricultural circles. He is one of those whose departure is regarded with mixed feelings of pleasure and regret, regret because an officer of Dr. Mann's versatility it is not easy to find in this country, pleasure, because he retires on well earned rest. Mr. Mann after some work at the Pasteur Institute at Paris and under Dr. Voelker in the Woburn farm came out to India as the scientific officer of the Indian Tea Association, Bihar. With a genius both for scientific work and organisation, Mr. Mann soon enlarged the work entrusted to his care and quickly became conspicuous by the publication of what may be regarded as a standard work on "Tea Blight" in Assam under joint editorship with Sir George Watt. Later his scientific fame spread outside and when the agricultural departments were reorganised Viscount Morley, the then Secretary of State for India appointed him against some little opposition to the important post of the Principal of the Poona Agricultural College. Since then he rose in popularity and fame and there was not one movement in Bombay in which he did not interest himself. Whether in agricultural, social, economic or temperance questions he was equally at home. As head of the Agricultural College Poona, and later as Director of Agriculture, Bombay following the distinguished Dr. F. G. Keatinge whose traditions Dr. Mann strove to keep up, his name is in everybody's mouth in the Bombay Presidency. There was not one meeting of the Board of Agriculture he did not attend; there was not one subject or item on the agenda in which he did not take part. His activities in the University, on behalf of the depressed classes and in the cause of temperance are well known. His insight into village problems and his clear grasp of economic questions led him many a time to wander afield and make researches on economic subjects. He was also a contributor to the "Indian Journal of Economics" on important economic problems. The last two years of his official activities were however spent in Scind in the new research station at

Sakrand where fundamental problems of far reaching character which arose out of the Sukkur Barrage scheme were being tested.

With a sterling independence of character, with an unparalleled devotion to work and an unquestioned earnestness Dr. Mann stands unique and occupies a position many may envy but few can attain. We wish Dr. Mann very many years of useful work in his dear old home.

Broadcasting and Agriculture. In advanced countries like England and Australia lectures on agricultural subjects are broadcast to distant parts in the country so that the farmer in his far off home can be as much benefitted as a listener in front of the lecturer. Recently we had in this country proposals made for disseminating agricultural knowledge through demonstration trains and lorries. The former have been enthusiastically taken up and run by the East Indian Railway but one defect of such a train is that all demonstrations are confined to train tracks alone. The man in the interior can have no access whereas it is he who needs much education and enlightenment. The lorry however remedies this defect but is itself beset with difficulties inseparable from it. A demonstration lorry needs in the first instance a trained staff who must give their time, leisure and convenience to such ryots as can alone lend their ears to them. Further they need supervision which is difficult. A third suggestion would be that each individual or group of ryots should be appraised of improvements and changes that take place from time to time not only in respect of commodities they produce but also of other articles which they buy or deal in. It is only help in this direction that will be useful to the ryots. One remedy which the Royal Commission seemed to hint in their questionnaire seems acceptable. It is the utilization of post and telegraph and broadcasting services for furnishing information to ryots from day to day. It should, if the Government would carefully manage it, be of immense use to the ryots of the country. In this connexion we are reminded of the very great service The Indian Broadcasting Company is doing at Bombay, Calcutta and Colombo viz., in broadcasting and making available for the public, weather reports and market prices. If receivers could be fitted up in as large a number of centres as possible it could be easy for people concerned for a nominal consideration to get everyday information from important commercial centres. Further if receivers are fitted up in important post offices information will

permeate to a larger circle of agriculturists than at present. We would suggest that one such set be fitted up at the agricultural college for instructional purposes.

International Agricultural Census 1930 :—Our readers may perhaps remember that in a former number reference was made to the fact that The International Institute of Agriculture, Rome had long ago proposed to a large number of countries that they should help in instituting an agricultural census in their own countries and furnish them to Rome for collation. It is believed that a few countries have taken action already and it is necessary that other countries also should act promptly so that the census of 1930 may be as complete as possible. In this connexion we are reminded of the unsatisfactory returns available from certain countries especially the Soviet Republic which unnecessarily disturb the equilibrium in the world market and upset the prices without bringing any corresponding advantages to the growers. Unless cent per cent of countries join in this co-ordinate action each country is bound to suffer and in its turn will bring unnecessary inconvenience to the countries with which it has trading relations. We hope British India is already taking action and with her gigantic array of statistics and hosts of officials engaged in the statistical line it should be easy for her to occupy the forefront in furnishing correct statistics.

The Raghavayya Malabar Tenancy Committee. The country of Kerala bewilders students of history. Her customs and manners to a large extent differ from those of other portions of Madras. During the past century and a half this portion of Madras has seen very many vicissitudes in her economic, social and political history:—first under the Zamorins, then under several branches of Malabar Royal families with now and then an intrusion by Tippu. British Malabar has differed in land tenure and social customs from both Travancore and Cochin. Even in British Malabar itself, the northern portion shows sufficient variation from the south though the distinctions are becoming obliterated day after day. The Jenmies claim they are owners in perpetuity of all land in the country and the cultivators are treated by them as mere tenants at will; while the latter have disputed the claims of the Jenmy and been agitating for better treatment at the hands both of the Jenmy and the Government. The Government of Madras have at different times been led into different ways of thinking depending upon

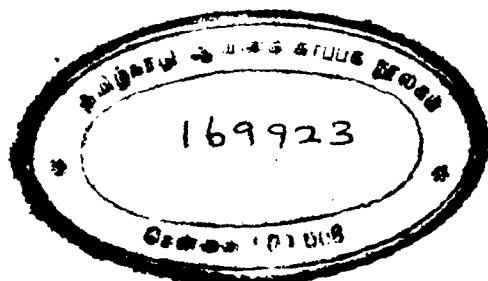
information furnished by the local representatives. The agrarian troubles which have at intervals arisen are an indication of the growing misunderstanding between the Jenm and the landless class. One cannot be quite sure whether the late Moplah rebellion had not also amongst its causes the economic subjection to which the spirited Moplah was subjected. Often Government have take steps to ascertain the condition of the rural population and of the relationships between the landlord and the tenant but such attempts have not been fruitful. About the year 1799 when Tippu fell, the Honorable the East India Company sent in two commissioners to ascertain the state of the Malayalam country. Later when the administration passed into the hands of the Crown, similar attempts were made, and in this connexion honourable mention must be made of the name of Mr. H. Logan who was Collector of Malabar for several years who thoroughly investigated the conditions and wrote the monumental manual of the Malabar district. But recently owing to the agitation set up by the leading men of the district as Mr. M. Krishnan Nayar and others, a private bill was brought in the Council but through the solid opposition brought to bear on it by the Jenmies the bill dropped out. The Government later found it incumbent on them to appoint a committee with Dewan Bahadur Mr. T. Raghavayya a veteran official as Chairman. Mr. T. Raghavayya has considerable experience of Kerala conditions as Dewan of Travancore. The Committee has been sitting for about three months and collected evidence from a number of persons and we hope that its labours will find fruition ere long and its recommendations will be received by the Government sympathetically and given effect to in the interest both of the Jenmies and the cultivators of the soil.

(iv)

The Ramasastrulu-Munagala Prize 1927.

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 1st June 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 15th June 1927, 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.
 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.
 9. Papers submitted will become the property of the Union.
- Any further particulars may be obtained from the Secretary, Madras Agricultural Students' Union, Lawley Rd. P. O. Coimbatore.

Secretary,
M. A. S. Union.



(v)

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