

This society which came into being in 1915 through the zeal and indefatigable efforts of Mr. Rao Sahib A. Sethurama Ayyar—an old agricultural student—and the whole-hearted support of the leading land owners of the District has shown steady progress and proved that co-operation in the field of securing raw materials for supplying the manurial needs and other requisites of the cultivators in the Tanjore delta will more than repay the time and labour spent on it.

It is wise of the Directorate that the energies of the society, are not frittered away in unfruitful channels but that their activities are confined to the purchase and sale to the members, of tried implements, green manure, paddy, cotton seeds, cakes, fish-guano and bone meal. We are gratified to note that a handsome profit of Rs. 718-5-4 was earned during the year on a total sale value of Rs. 10,147-1-6, which works out at over 7 per cent on the sales effected. During the past 9 years, the number of members has risen from 44 to 126, paid-up share capital, Rs. 445 to Rs. 1112, sales from Rs. 920 to Rs. 718.

We congratulate the secretary Rao Sahib A. Sethurama Ayyar and the Directorate on the successful working of the society during the year.

We heartily commend the progress of the society to the countless mirasdars in the district and would appeal to them to join the society or start similar societies to better enrich themselves and the district—a not unpatriotic act indeed in our opinion.

### Notes.

*Transplanting Crop Plants.* In the United States, the annual value of crops which are usually transplanted amounts to nearly 200,000,000 dollars, grown on an area of 1,289,000 acres representing 57 per cent of the acreage and 63 per cent of the value of all vegetables other than potatoes. This renders the work of Loomis (Memoir 87, Cornell Experiment Station) on the value or otherwise of transplanting, of great commercial value. Transplanting is becoming recognised as an economic expedient not directly promoting the development of the plant. Experiments indicated that in the early seedling stages all vegetables could be transplanted with little or no injury, but with advancing maturity the injury increased in all cases, but more in some crops than others. The roots of transplanted plants were more branched than those not moved, but the general effect of the process was to retard development the degree of retardation depending upon the plant, its age and the conditions of transplanting; to some extent, also, the total yield was reduced. All crops seemed to be equally resistant to rapid wilting at the time of transplanting,



but they varied in their ability to withstand unfavourable conditions afterwards, presumably due to differences in the rate of reestablishment of roots. The effects of hardening off seedlings were investigated by transpiration studies before and after transplanting, which showed a more rapid recovery of the normal rate in plants, previously hardened, this recovery being apparently associated with quicker root development. A clear correlation has been established between ease of transplanting and rate of new root formation, plants seriously injured by transplanting showing normally rapid top growth and slow root replacement. Root replacement seems to be the largest single factor concerned in transplanting, though the age at which suberisation of the older roots occurs may also have some bearing upon the matter in its relation to their power of absorbing water immediately after the root tips have been broken off when the plants are disturbed.

(Nature dated 31-10-25.)

*Maynard Ganga Ram Prize.* Sir. Ganga Ram Kt. C. I, E. M. V. O. R. B., Lahore, has handed over to the Punjab Government a sum of Rs. 25,000 for the endowment of a prize known as the Maynard Ganga Ram prize to be awarded every three years for "a discovery or invention or a new practical method which will tend to increase the agricultural production in the Punjab on a paying basis."

It will be of the value of Rs. 3000 approximately and the competition will be open to the world.

Applications should be sent to the Director of agriculture, Punjab by the \*1st January 1929 and the managing committee reserves the right of withholding or postponing the prize if no satisfactory achievement is reported. Government officials are not excluded from the competition for the prize.

We feel very grateful to our patriotic countryman, Sir Ganga Ram for his extreme generosity and correct discernment of the duties of a rich landholder in furthering research, but feel constrained to state that the limited scope of the problem cannot attract a very large number of competitions, though Sir Ganga Ram's outlook is not confined to the territorial limits of the Punjab.

*Landlords leaving the land.* Lord Middleton, speaking at the annual dinner of the Driffeld branch of the National Farmers' Union, referred to the heavy Death Duties, and said that at every time he returned to Birdsall House, he was confronted by a long row of boxes which used to house Shire horses and mares, and by empty cowsheds, because of the necessity of being compelled to meet obligations under



Death Duties and enormous taxation. He was of opinion that most landlords who depended for their income on land were cleaned out, and only those kept on who had capital apart and separate from the land. He did not know how much longer they could carry on, for the land was bringing in next to nothing. Unless taxation was reduced they would be squeezed out.

(From Farmer and stock Breeder 18th January 1926.)

*Tightening the Belt.* Major Buxton said there was now not nearly so great a demand for agricultural land as formerly, intending buyers being afraid of the risk, for the purchase of land was not now a sound investment. People said that farmers must be making money because, whenever there was a farm in the market, scores of applications for tenantry were forthcoming.

That was because the farmer, who had had experience, was not very suited for any other occupation, and he preferred to keep on farming even at a loss rather than be idle. "Without question we love the land, and the pleasure of owing of some land counterbalances the worry," he said.

(From Farmer and stock Breeder, 18th January 1926.)

A recent memoir by P. H. Sanyal Pusa examines the results of *trials in storing canes* and states:—

- (1) That the deterioration of sugarcane kept stored in such a way that the stems of unstripped canes of one set are covered with the leaves of the tops of the other is effected by the enzymes present in it;
- (2) That the enzyme activity can be efficiently checked and the cane kept in good condition if it is kept well covered in a dry place so as to avoid rapid evaporation of moisture from the cane;
- (3) When rain falls, water enters through the nodes where the invertase concentration is much more than at the internodes.
- (4) The inversion passes into the internodes and causes deterioration;
- (5) When deterioration goes on, the reducing sugar disappears and forms the new tissue of germinating plants and
- (6) Spontaneous deterioration of stand cane is due to rapid evaporation of moisture which helps diffusion of invertase from nodes to internodes.



*A new use for the stone roller.* The Mysore Agricultural calendar for 1926 mentions a new use for the stone roller in that territory which is capable of wider application than in Mysore. Groundnuts are very largely grown in that State and often it happens that during the harvesting season no rain falls and the ground gets hard. The primary need in groundnut harvesting is the softening and loosening of the soil. This is secured by drawing the stone roller over the groundnut field. On redsoils of the kind predominant in Mysore the effect is remarkable and the relief afforded is very material. The small hand hoe is used in digging the ground only where the roller has been passed.

*Sandalwood oil industry in India.* This industry is confined to Mysore and has been of recent growth. With Coimbatore and Coorg up to 1916 Mysore was exporting 2000 tons of sandalwood chiefly to Germany. Coimbatore and Coorg supplied 500 tons and India consumed 1000 tons.

The principal uses for the oil are for perfumery, medicines and the manufacture of soaps.

During the war export to Germany was stopped and Mysore got no revenue and put up in 1916 two factories for manufacturing oil one at Mysore and the other at Bangalore City. Their total annual output is 200,000 pounds of oil.

Indian oil is the best and is now exported to Japan, Australia and the Netherlands. East Indies manufacture a lower grade of oil and export to America in large quantities.

(Abstracted from the Journal of Royal Society of Arts, Dec. 18.)

*Chilean Nitrate.* World consumption in 1923 was 2.17 million metric tons. This was 15 per cent below the total for 1913. While in post-war period consumption in Germany shrank considerably, the U. S. A. went in largely for this fertilizer and broke all records for 1923. Consumption outside Europe and U. S. also shows increase. Increased production has followed the improved position of the industry.

*Mungo.* In the Philippines there are three varieties-the black, the yellow and the green but yellow is the variety raised for the market.

The young pods and seeds are used for food and the fresh plants as fodder for being ploughed in. Any land fit for rice and corn is suitable.



At high elevations it is sown in the late rainy season in September or October and in paddy lands in February when it is harvested in April.

The seeds are planted in small mounds 3-5 to each mound, in higher lands in furrows 50 centimes apart to 20 centimes apart. They are broadcasted in paddy lands. In paddy lands the straw is burnt in the field, the surface is allowed to crack for a few days, the field irrigated and drained and seeds at 20 gantas to one cavan per hectare broadcast on wet surface and harrow passed over. The crop is ready in 80 to 90 days.

Handpicking is the only method of harvesting. In Pangasinan disitric, the crop is harvested in shares from one-eighth to one-fifth being given to the harvester. Usually one crop is taken in a year. The harvested pods are dried in the sun and are trodden or beaten out

5 to 6 cavans are obtained from one hectare of land, which at harvesting time sells at 6 per cavan.

A simple one year plan suggested in paddy land is to plant rice in June and harvest in November, sow mungo in November and harvest in March, plant corn in March and cut in May. In Pangasinan, rice is planted in low lands in June, cut in November-December, Mungo sown in February and cut in late April.

*Twelfth Indian Science Congress 1925*:—Proceedings of—the—A bird's view.

The total number of papers given in different sections was 434 including those read at the joint meetings of sections. In agriculture, there were 63 papers and papers of agricultural interest that were read in other sections numbered no less than 36. Thus agriculture accounts for 23 per cent of the total papers and it is fitting that in an agricultural country like India agriculture should occupy first attention. The sectional President for agriculture was Mr. R. S. Finlow and in his address reviewed the work that had been done and of the progress which was being made in the improvement of Indian agriculture.

Experiments made in the Indian Institute, Bangalore with *Ajwan* and *Mohua* cakes which are industrial waste products in many districts have, as shown in a recent issue of the Journal of that Institute, proved that (1) the ajwan cake does not diminish the activity of micro-soil organisms while its nitrogen appears to be in a form readily available to the plant, and (2) the mohua cake as a fertilizer is hardly practicable owing to the presence of saponin which inhibits the formation of nitrates.



Between 1789 and 1889 the area of *wheat in France* rose from 18 millions to 17 million acres and the yield per acre from 9 to 10 bushels per acre.

(Scottish Farmer, 3-10-25.)

### Statistics.

Agricultural Co-operation in the United States on 1st. January 1925.—By W. O. Hedriek.

Two and one-half million members is the estimate for the ten thousand active farmers' business organisations reporting to the U. S. Department of Agriculture, upon the date named above.

Marketing Grain, 509,000; Marketing Dairy produce, 360,000; Marketing Cotton, 320,000; Marketing Livestock, 300,000; Marketing Fruits and Vegetables 210,000, Marketing Poultry Products, 45,000; Marketing Tobacco, 300,000; Marketing Wool, 45,000; Marketing Nuts, 23,000

The associations handling a miscellaneous line of products and performing miscellaneous functions had an estimated membership of 397,000.

Nearly one half (46.50%) of the membership named above was in the twelve North Central States. Slightly over 23% of the total membership was in the eight South Central States. Between 13% and 14% of the total number of members were in the South Atlantic States stretching from Delaware to Florida. Less than three % were in the Mountain States and a trifle over 2% in the New England group of states. (From Michigan Agri. Experiment Sin. Bull, Vol. 8 No. 1).

**Industries in India.** The total output of coal in India in 1924 was 21,176,606 tons, the greatest in any year except 1919. The exports which were mainly to Ceylon were 206,483 tons about a quarter of the prewar figure. The imports were chiefly from South Africa, the United Kingdom and Australia and amounted to 463,716 tons. The net amount of coal left over in excess of local consumption and exports led to a depression. Average price per ton in the pit's mouth in India proper varied from Rs. 5-13 in Central India to Rs. 10 in Punjab. The total number of persons employed daily in India proper was 203,331 and output per person varied from 47.4 tons in Hyderabad to 1.823 in Rajaputana.



The production of Iron increased from 823,053 tons in 1923 to 1,445,000 tons in 1924. The Tata Iron and Steel Co. was chiefly responsible for such increase. Steel melting capacity and internal requirements in India for iron castings being very much less than the blast furnace capacity large export of pig-iron has become inevitable and stood at 341,326 tons with a value of Rs. 217 lakhs. Owing to a world wide slump in the iron and steel trade the importation of Indian pig-iron into the U. S. A. led to complaints from American producers and even anti-dumping notices seem to have been issued against certain cargoes.

*Petroleum* ;—Production amounted to 294½ million gallons in 1924 and kerosine oil 71,807,575 gallons and of fuel oils 89,152,952 gallons valued at Rs. 651 lakhs of rupees while paraffin wax exports aggregate 29407 tons valued at 135 lakhs.

*Salt*.—Ordinary salt 1,623,475 tons; rock salt 189, 237 tons. Total value is 108 lakhs. Imports 595, 666 tons valued at 139 lakhs.

*Saltpetre*.—Production 8,543 tons valued at 25 lakhs; exports 8,385 tons valued at 28 lakhs.

(From the Records of the Geological Survey of India Vol. LVIII Pt. 3)

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## EDITORIAL NOTES.

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*The Royal Agricultural Commission.* With pleasure we note the announcement of the constitution of the Royal Commission to investigate agricultural problems in India. It is opportune that the advent of the Agricultural Commission should synchronisewith the celebration, in July 1926, of the Golden Jubilee of the introduction of Agricultural Education in India, by the Madras Agricultural Students' Union, as this occasion will be utilized to review the progress during the past 50 years. It is a happy sign of the times that during the past two or three years, every section of opinion should profess to speak for the masses, for the man in the street, for the toiling peasant. Should this turn in the wheel inaugurate a new era in the development of the natural resources and proper adjustment of society, all efforts the country has put forth will not be in vain.