

## Notes.

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As mentioned in our leading article of November issue the week preceding Christmas was a very busy time for the Agricultural Department in connection with the Madras Exhibition. While we are going to the press we understand that the hard work done by many of the members of the Department has been rewarded by a 'Certificate of Excellence' conferred on the Department of Agriculture. The Judges of whom none other than Sir Frederick Nicholson who has been associated with the agricultural improvement of the Presidency for nearly two decades and who can authoritatively talk on the subject has recorded excellent remarks appreciating the educative value and usefulness of the Exhibits. Departmental officers of the Agricultural College and Research Institute and the Northern, Southern and Central Divisions were very well represented on duty in the grounds. Among those present were Messrs. R. C. Wood, K. Rangachariar, W. McRae, R. Thomas, K. Ramasastrulu Naidu, D. Ananda Rao, J. Chelvaranga Raju T. V. Ramakrishna Ayyar, and D. Balakrishnamurthi. There were also numerous other non-gazetted members of the department on duty and as visitors. Six students of the College served as volunteers rendering service by way of helping the officers in arranging the exhibits and relieving men on duty at odd hours. We may therefore say that the credit earned by the Department is to be shared by all these people.

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The beneficial effects of deep rooted crops are well known, specially in opening up the subsoil, making it more porous and thus aerating it. Red gram (*Cajanus indicus*) is one of the best examples as a natural soil aerator. The long tap root of this plant goes to a great depth in the soil and the lateral roots break up the soil in all directions, so that a system of tunnels is left which helps in ventilating the soil. The effect of this on the succeeding Tobacco crop is considered to be most beneficial. The

cultivation given during the growth of this crop also helps in aeration, while the organic matter added by its leaves and flowers also assists in the same direction. Red gram may therefore be considered as the subsoil plough of the ryot.—“Soil Ventilation.”  
D. A.

[This probably accounts for the practice obtaining among the florists of Tanjore of systematically growing one or two plants of Redgram by the side of every Jasmine cluster. (Ed).]

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*Improvement of saline lands*:—There is a popular belief in Vizagapatam District that Vekisa wood (Peterocarpus Marsupium) improves saline lands. It is believed that fields slightly alkaline are considerably improved when worked with implements made of Vekisa wood. The saw-dust of Vekisa wood is very eagerly collected by owners of alkaline lands to improve their fields. When Vekisa wood was being sawn for building purposes on the Anakapalle Farm, one Dantuluri Sanyasi Raju Garu of Tummapala took a cartload of Vekisa saw dust and applied to a plot of one acre in 1914. On this land paddy used to die immediately after transplanting but in the year 1915 a fair crop of paddy was grown as a result of the application of Vekisa saw-dust.

A sample of the dust was taken by the Agricultural Chemist and a fair quantity was supplied to the Govt. Sugar-cane Expert for dressing an alkaline plot on the sugar-cane breeding station at Chettipaliam. A scientific explanation on the subject from the experts will be most interesting. D. B. K.

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*Indigo Industry in Vizagapatam District*:—As a result of the great European conflagration the price of indigo dye has more than quadrupled itself and the benefits are monopolised by a very few people who had kept their factories going even when there was a lull in the industry. Thousands of factories were constructed in the district in the seventies and eighties of the last century

by the late Messrs. Arbuthnot & Co. and almost all of them are now in ruins. To bring them to order, a large investment is required and in addition to this, the factory people are required to supply seed for sowing to the ryots at a very low rate viz. Rs. 4 per bag of 164 lbs., whatever be its market rate. A bag of indigo seed, selling at Rs. 4 to 5 before the war is now being sold in Rajahmundry and Cocanada markets for over Rs. 40 irrespective of the quality of the seed. Vizagapatam District depends for its supply of indigo seed on the Godavari lankas where for want of proper demand, seed 5 or 6 years old was lying idle. Owing to the present rise in the price of the dye, merchants poured in from the southern and ceded districts, purchased the last traces of the seed and exhausted all the oldest stock without even caring for the proper germination of the seed. Large quantities were purchased by merchants from Nandyal side to adulterate their's and to pass it on as Nandyal seed to the southern districts.

About 100 bags of seed purchased last year—on the Anakapalli Farm—for distribution to the ryots and of poor germination capacity was very eagerly purchased by ryots from Guntur District. They were supplied at the cost price of Rs. 6-8-0 per bag although merchants offered higher prices. But they were warned to use a higher seed rate as the seed is of poor germination capacity. The sowing season is fast approaching and enough seed to supply the demand is not available. D. B. K.

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At one of the weekly excursions made, our attention was drawn to an interesting method of well-boring in Vellaikinar, a village situated about 8 miles to the north of Coimbatore. Although it was originally introduced here some ten years ago, the practice has now established itself fairly well.

The tools used in the operation are quite simple but by no means inefficient. They are only a few crowbars and a spansel. The crow bars used are steel tipped, about two inches in diameter, varying from

6 to 40 cubits in length and can be bought at 4 cubits per rupee. The spansel has a valve at the bottom end, capable of opening upwards only. To the top end of the spansel are attached a number of iron rods which are folded over one another when not in use. The spansel with the rods costs about Rs. 10.

Boreholes are put from the bottom of all existing wells. In the dry season when there is very little water in the well they select a place at random for boring. With a short crowbar a set of 4 men busy themselves in getting down the crowbar straight. Then the crowbar is removed and the spansel is introduced to remove the mud. Owing to the pressure exerted by the persons the mud pushes the valve up and enters the cylinder. When this is full, it is lifted up and emptied of its contents by inversion. As the hole gets deeper and deeper, longer crowbars are used and the rods of the spansel are unfolded as required. Two sets of persons will be engaged now, one set standing on a platform erected and the other at the bottom of the well. The latter see that the crowbar always goes straight and that it is given a proper twist lest it should stick in the mud. The free end of the iron rod is tied to a string which passes over a pulley suspended to a tripod erected for the purpose. The operation is continued on till the hole reaches the water under pressure, which gushes out with a tremendous force. But it may be observed that failures are quite common as the bore-holes are put at random. It is only by chance that the bore reaches the water bearing stratum in the first attempt. Many fruitless borings have to be done before they hit at the right place. But in Vellaikinar the water bearing stratum is one of the fissured rocks and there is usually a good supply of subterranean water.

When it is found that the hole has entered the spring the crowbar is removed and a bamboo pipe 3 or 4 cubits long and open at both ends is introduced. This precaution is necessary as otherwise the hole will be blocked up with mud from the bottom of the well. This finishes the operation of well boring

In Vellaikinar, the whole operation is often let on contract. The rate varies with the hardness of the rocks below and ranges from Rs. 1

to Rs. 2 per cubit. Usually a successful boring costs about Rs. 50 to 60 for a depth of 40 feet.

The advantages in this set of tools are that they are cheap and simple not requiring great mechanical skill. The boring itself does not cost much and the operation can be done by ryots themselves in times of drought. The well need not be deepened and consequently the lift is not made higher. A continuous supply of water can be ensured even if the season turns out to be dry. V. R.

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*Agricultural Improvement in Malabar* :—I have for sometime past been taking some interest in the improvement of South Indian Agriculture and maintaining a farm of my own in which I have tried some of the new methods and achieved some measure of success and I am still pursuing it. Recently I had occasion to visit two private farms in the centre of Tellicherry which showed me the wonderful results of economic transplantation. One is in Narangapuram—the cultivation extending about 8 acres and maintained by Pattath Krishna Marar. It has been in existence for the last two years and the method of economic transplantation has been tried here with wonderful results with the Taliparamba Farm seeds.

The local seedrate before the adoption of the new method was 400 Madras Measures. This has been reduced to 200 M. M. (both per 8 acres of cultivation). This is in the ratio of 50 to 25 M. M. an acre i. e., where the cultivator used to sow 50 M. M. in the nursery to transplant one acre formerly, he now sows 25 M. M. to transplant the same area i. e., a reduction of 25 M. M. of seed per acre—the seed used being selected seed in the latter case (Taliparamba Farm seed).

The cultivator says that he used to get an average of about 500 M. M.; but for the last two years, he says, referring to the accounts kept by him, he was getting about 750 to 800 per acre.

This is a clear extra outturn of 250 Madras Measure per acre. The land has been treated with only ordinary ploughings, manuring etc. One can gather that the result is evidently due to the selected seed and economic transplanting. I would remark here that the one defect that I found was, that he was not careful with regard to the weeds, which I suggested could be remedied by constant ploughings, commencing soon after harvest.

The Taliparamba Farm Manager who was accompanying us throughout, pointed out that with greater attention being placed to tilth and proper application of manure in the usual time and if the system of seed selection is annually carried out with care, the seedrate could gradually be brought to the standard of the rate of the Farm—i. e., 10 M. M. per acre.

The other land we visited is the "Kaivatta" land in Chalil also in Tellicherry. The improvement made here is similar to that at Narangapuram (Iruvangad); but with this difference that the seedrate here has been reduced from 40 (local) to 20 (selected) as the land here is more fertile than at Narangapuram; and it is a matter for extreme satisfaction to know from conversation with the tenants over here that they use less seed, have faith and belief in what the Manager was advising them to adopt and that they hope to be able to reduce the seed rate still further in the course of another couple of years.

The results achieved in the above two Farms prove beyond doubt the wonderful effects of economic transplantation. To encourage their adoption on a larger scale, what is wanted is men who will educate and convince people by encouraging the starting of demonstration plots in suitable localities in different centres of the District. The publication of the results achieved, by those who have tried and succeeded, will be of real benefit in educating the public and encouraging them in the adoption of improved methods of cultivation. V. K. K. N.

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At the Delta villages in the Ramachandrapur Taluk of the Godaveri District visited in the last week of December, there were to be met some patches of Sunnhemp about 3 feet high with a good uniform stand. Sunnhemp is regularly grown in these parts by a large number of ryots chiefly with the object of providing nourishing fodder for their cattle. A small variety of the seed is sown in the standing crop of paddy a week to ten days before the harvest of paddy in November when there is sufficient moisture in the land, the seed rate being 3 Kunchams or  $7\frac{1}{2}$  Madras Measures per acre. In about a month after sowing, the crop will be about 3 feet high and from this time forward the required quantity of it is cut daily and fed to cattle in a green state for about a month. At two months' old, it will be about 6 feet high and fully in flower when the whole crop is cut and allowed to dry for about a week and then bundled and stacked to be used as dry fodder. While stacking, care is taken to provide a bedding of straw, about 6 feet thick, and a good covering of the same material to prevent any rain water getting into the stack and spoiling the fodder. It is a pleasing sight to see that the Sunnhemp is cut into small pieces and given to young and milch cattle in baskets to prevent wastage. This leads one to think that Sunnhemp might prove a valuable fodder crop when rotated with Cholam under regular irrigation. As cattle seem to possess an instinct of not overloading their stomachs with Sunnhemp, either green or dry, they can be safely fed with as much as they can eat of it in addition to the staple fodder. Converted into hay and cut into chaff, it must form a valuable adjunct to the existing fodders.

A. R. R.

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#### Sugarcane tops for dairy cattle.

Cane tops are the most readily available green fodder on certain estates in Barbadoes and would seem to be a food eminently suited to the production of milk and butter. It is found, however, that a diet of sugarcane tops result in the production of a soft