Agricultural Jottings

BY THE DEPARTMENT OF AGRICULTURE, MADRAS

Rice Research Station, Berhampore. With the assistance given by the Imperial Council of Agricultural Research, the Rice Sub Station at Berhampore came into existence in March 1932. On account of the temporary nature of the station, the two most important lines of work namely, the survey of the tract with regard to its varieties and the improvement of the main varieties by evolving strains and the carrying out of the necessary cultural and manurial trials relating to the tract, were taken up first. Four years' work has finished and important results obtained are the following:—

120 varieties of the tract have been studied and pure lines have been evolved from all of these. Selection work was confined to half a dozen amongst these which are the most important in the tract. These selections from *bayyahunda*, *ratnachudi*, *boroponko*, *mypali*, etc. have undergone already two years' trial on the station and several of these have been found to give 15% and more of increased yield over the ryot's seed. With another year's trial on these at the station the best of them will have to be tried at different centres in the tract to gauge their suitability. It is expected that in another 2 or 3 seasons we would have arrived at the best of these for multiplication and distribution to the people.

As a preliminary to evolving strains mass selected bulks have been obtained in the two varieties, *bayyahunda* and *ratnac'hudy* and the seed distributed to the ryots has been very much appreciated.

A large number of cultural and manurial trials have been carried out during the last three seasons and some important results have been obtained with regard to the optimum spacing to be given to seedlings at planting, the optimum age of seedlings to be planted, and the comparative merits of broadcasting directly and transplanting, etc. With regard to manurial trials, green manuring has been found to be very economical, yield increase of 20% being obtained even with an application of 2 to 4 thousand pounds of green leaf. The trials with fertilisers, though some of them have been found to give a substantial increased yield either by themselves or in combination with green leaf, the value of the increased yield invariably does not cover the cost of the fertilisers. These trials will have to be continued sometime longer before any definite conclusions could be drawn from them.

Besides the above, certain crosses have also been made chiefly for studying the inheritance of fineness and texture of rice.

The House Fly Maggot Trap—An Effective Control of Flies. It is common knowledge that flies breed in manure and other refuse matter where their young ones—called maggots—find plenty of food for their growth and development. With a knowledge of the habits and life history of the fly it is possible to prevent its multiplication. This is by the use of what are known as fly maggot traps which work on the principle of attracting flies to fresh manure in a receptacle for egglaying and trapping and destroying the maggots that hatch out, making use of their migratory instinct. The trap consists of a rectangular wooden frame 2′ × 2′ × 2′ fitted with ½″ mesh wire netting on all sides, open at the top and provided with a plank at the bottom about 6″ from the ground level. All round the trap at the level of the plank is a U-shaped drain of galvanised iron fitted with ledges on either side, slanting towards the drain. The drain is filled with water which can be drained when necessary through a hole at the

bottom on one side which is plugged with a cork. The trap is placed near cattle sheds or other places where flies abound and fresh manure is put into it daily in small quantities so that it gets filled in four or five days. Attracted by the fresh manure, flies come and lay eggs. The maggots that hatch out begin to wander about and move towards the outside and, in so doing, come out through the meshes of the wire netting and fall into the drain round the trap and are caught. These are collected daily and destroyed. The water in the drain is also renewed. To provide a continuous supply of fresh cowdung for egglaying and also to ensure thereby continuous trapping of maggots every day, instead of a single trap, a set of three is used, the baits in each being put in one after the other so that by the time the third trap gets full the first one would have got exhausted and could be renewed.

Maggot traps may be made in any design provided the principles of their working are borne in mind. A simpler and cheaper trap working almost as efficiently as the one described above has been devised by making use of a galvanised sheet of iron 6′×3′. The sheet is bent along the length to form a trough and hung up a little above ground level. Manure is put in as in the case of the former trap in small quantities every day until it gets full. The maggots in the manure travel along the length of the trough and drop down at both the ends of the trough and are caught in two shallow wide basins (earthen basin will serve well) containing water placed exactly under the two open ends of the trough.

Fence substitutes for Prickly Pear. At the recent budget session, a member of the Legislative Council complained that while through the effort of the Agricultural Department prickly pear had been practically destroyed, the Department had taken no steps to suggest to ryots substitutes for prickly pear as a fence. The Department realising its responsibility has been for some time testing different live fences at several of its Agricultural Research Stations. In fact, an article in the Villagers' Calendar for 1936 contains useful information on this very subject.

The plants recommended in the article are—

Mullukiluvai (Balsamodendron berryi).
Chadurakalli (Euphorbia antiquorum).
Bonthakalli (Euphorbia royalena).
Tirukalli (Euphorbia tirucalli).
Kathalai (Agave Americana) Aloes.
Sisal Hemp (Agave sisalana).

These plants are available practically everywhere and it is left to the individual to choose what he considers suits his local conditions. Readers are advised to peruse the article referred to in the Villagers' Calendar and to apply to the nearest Agricultural Demonstrator for selection of the material most suitable for their locality.

Studies of the manurial reserves of the village. At Velacheri near Madras where farming on a co-operative scale is being attempted by the Agricultural and Co-operative Departments, the Agricultural Demonstrator in charge has been recently conducting a survey of the village. An enquiry into the manurial resources of the village revealed that out of the 699 houses in the village, 600 houses use cowdung as fuel. Each family burns 40 cowdung cakes daily and this is obtained from the droppings of 2 pairs of animals. At the above rate, the total consumed in the village is reckoned at 8000 cartloads of cowdung. This would be sufficient as manure for at least 1600 acres of dry land which are at present being raised with crops year after year without any manure at all. Besides, hundreds of cartloads of cowdung cake are daily sent to the Madras City from the surrounding villages for being burnt as fuel and the total annual loss of such a valuable manure is colossal seriously affecting the production of crops in the district. In

a country where soils are so deficient in organic matter it is essential that serious attention should be paid to the provision of fuel other than cowdung.

Lucerne. The Department recommends several fodder crops of which Lucerne is one. It will amply pay the growers near big towns and racing centres where a large number of horses are kept. For example, the Madras Race Club is said to consume in the neighbourhood of 400 lb. a day valued at Rs. 12—8—0. It is reported to be obtained all the way from Bangalore. Attempts are now being made to grow it at Velacheri, a village already mentioned above and situated near the Guindy race club. The crop, if grown under proper conditions, is expected to yield about 50,000 lbs. of green stuff annually. The gross value, estimated liberally at 100 lb. per rupee, will amount to Rs. 500 per acre while the cost of cultivation is not expected to be more than Rs. 200. Lucerne is a good succulent food not only for horses but also for cattle—working and milch, and poultry.

Fish Guano. In the West Coast very large quantities of different varieties of fish are caught and used in the preparation of sardines and in the extraction of oil. The refuse after the extraction of oil is known as "fish guano." Some varieties of fish, particularly those which are small in size are simply dried in the sands on the beach. Such beach-dried sardines which cannot be used as food are used as manure.

One variety, "White bait" or known locally as *Kollataru* was recently sent to the Government Agricultural Chemist, Coimbatore, for analysis and was found to contain as much as 10·4% nitrogen and 4·4% phosphoric acid. It is already being used as manure for sugarcane with very good results.

College News and Notes.

The Principal of the College and ex-officio President of the Union Mr. R. C. Broadfoot is proceeding home on leave and Mr. R. W. Littlewood, Dy. Director, Live Stock is appointed officiating Principal of the Agricultural College.

College Day and Conference. The Hon. Sir K. V. Reddy will as officiating Governor of Madras inaugurate the Diamond Jubilee celebrations, and the Hon. Mr. P. T. Rajan will preside over the College Day and Conference. The proceedings will commence on Wednesday the 29th July and last for four days. It is likely that a conference of all the Gazetted Officers of the department will be arranged during the conference week, and it is expected that Mr. C. J. Paul, Development Secretary will preside over the Gazetted Officer's Conference. The Managing Committee of the Union extend their invitation to all the members of the department, and the readers of the Madras Agricultural Journal, to attend the Diamond Jubilee celebrations, and make the function a success.

The Late Sir M. Ramachandra Rao Garu. In the death of Sir M. Ramachandra Rao, South India loses one of its leading public men, and the Madras Agricultural Students' Union, one of its sincerest well wishers. His interest in the welfare of the ryot was sincere and real. and his contribution towards the co-operative and banking movements in the presidency is well-known. He was one of the distinguished presidents of our College Day Conference. We tender our heart-felt condolence to the members of his family.

Mr. M. Rajagopala Iyer. It is with deep regret that we announce the death of Mr. M. Rajagopala Iyer, assistant lecturer in chemistry on the 21st inst. Mr. M.