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Editorial Notes.

AGRICULTURAL EXPERIMENT—OUR PRESENT NEED.

We need offer, we hope, no apology to our readers to advert to this subject. The one idea that has engrossed the attention of all men during the past five years is the question of food, more food and nothing but food. Statesmen have from public platforms regretted the lack of resources of the farmer in producing more food grains. Pastors from their pulpits have exhorted their flock to do their duty by the country. Publicists and capitalists have spared no pains in emphasizing the production of food grains on an adequate scale. Soldiers at the front, the disabled, the invalids and children at home have all clamoured for food. Thus the cry has been for food everywhere though the agencies of production were lamentably fast decreasing on account of the war. The termination of war has witnessed no better results. Each nation is struggling hard to secure whatever food it can get whether at home or from abroad, and the even tenor of world-trade having been disturbed, the nations have

not had sufficient time to settle down to their old moorings. And the nation, therefore, that is able and willing to produce food materials not only for its own consumption but for export to a needy country will now be rightly considered a benefactor to mankind. Unfortunately for us in India, the distress has been accentuated during the past two years by the failure of the monsoon in 1918—19. Prices have risen abnormally high and food grains have become difficult to obtain. And to a large part of the population for whom the margin between comfort and starvation is very narrow, this state of affairs has brought unmitigated suffering. The benevolent efforts of Government notwithstanding, scarcity prices still prevail. Even the most lethargic man has begun to think seriously about farming and farming methods. It behoves us, therefore, members of the Agricultural Department, to rise equal to the occasion and be ready with quick and sure methods that can be taken up by the cultivator. Improvements that have been advocated till now have served no doubt a very useful purpose and have largely prepared the ground for people to anticipate a more definite step in advance.

The activities of the Department have so far been directed towards finding a solution for certain local problems. The time has no doubt been short to enable the people to pick up experience to utilise it for application to other tracts. The results have therefore, we must confess, been altogether not quite satisfactory or such as can stand the test of time. The energies of the Department have been mostly confined to démonstration

work. Research and experiment have not gone hand in hand with demonstration in order to keep pace with the growing needs of the people. Paddy occupies about eleven million acres of cropped area in this Presidency and the problems connected with it alone are many and varied. The Government Economic Botanist has been doing useful work in breeding and evolving superior strains of paddy, but the urgent needs do require work on a more comprehensive scale, having for its basis the economic side of cultivation as the Director of Agriculture forcibly put it in his address to the students on the last Diploma Day at the local Agricultural College.

There are yet to be evolved paddy varieties which will stand swamp conditions. There are still wanting varieties which can mature at shorter periods than now and yet yield the same quantity of grain. The cultivator is in certain tracts in sore need of varieties which can be sown and harvested with the fickleness of the season. Varieties which can be bred and harvested in saline patches commonly found in all rice growing tracts are still a desideratum. The chief problem both for the ryots and Government in the Godavari District is the utilisation of water running to waste during the months of December and January, and thus to ward off its scarcity in March and April, when the growing paddy wants all the water that can be made available. Trials during the past 12 years on the Government farm at Samalkota and other places in the delta have not successfully solved this question and the explanation of the failure which has attended the unavailing efforts of

the Department seems to lie in the conclusion arrived at by the Italian experimentalists in their trials on paddy, particularly in regard to the effect of low temperature and mist on rice development a reference to which has been made in an interesting and informing article in the "International Review of Agricultural Intelligence and Plant diseases, Rome" extracted elsewhere in this issue. Local prejudice against the method of experiments conducted, that no attention was paid to the effect of cold weather is possibly not without foundation. Similar difficulties have not been unconnected with the experiments on cholam and other staple food crops. India has been importing millions of pounds of sugar, though it is probably the largest sugarcane growing country in the world. The seasons in Upper India, the systems of cultivation, and methods of extraction of juice have been the limiting factors in the production of sugar there. Further down in the south, absence of adequate facilities for irrigation and high prices of more easily producible grain crops have stood in the way. The solution therefore of stemming the tide of steadily increasing imports of sugar has been difficult of attainment. In the matter of clothing again, absence of machinery locally and cessation of imports from England have tended to send up prices, though the country has been able to produce more cotton than she actually consumes. Cotton selection work has loomed very large up to the present, but the present needs would seem to require a fair adjustment of work on this and other crops. In regard to the pests on crops, trials on an extended scale are necessary. If the country

is to benefit from the progress of modern science the attention of both the expert and the general agriculturist should be directed towards the solution of agricultural problems, with a singleness of purpose in view, and this can only be achieved when the conclusions are based on a sound foundation of facts and of experiment rigidly conducted under varied conditions.

In these days of Scientific alertness and development, no nation can afford to stand alone and it is not impossible for the local department with its capable staff to institute experiments on proper lines to satisfy the requirements of the modern farmer. Self interest as well as patriotism will, we hope, prompt the members of this department which is being steadily officered by Indians to keep to a high standard of efficiency and work out problems to the best advancement of the country. We reiterate that experiment should precede demonstration as it is the solid foundation on which the latter ought to rest.

Paddy work in Madras.—A Review.

Rice is the staple crop of the Madras Presidency. It occupies according to the latest statistics $11\frac{1}{2}$ millions of acres or roughly 40% of the total area under food crops. Rice is grown under more varied conditions than any other crop and hence probably the enormous number of varieties. There are varieties which are grown absolutely dry as in the West Coast and the uplands of Kistna and Godavari, There are varieties which are sown and treated dry in the earlier stages but changed into wet when tanks get filled after the break of the monsoon, as in Nellore and the Nandyal valley. There are again varieties which are grown under well irrigation. Lastly we