

and no such specialized workers are provided on the staff. While much valuable work has been done by the experimental farms, there can be not the slightest doubt that there would have been an infinitely greater record if, in providing the land, the equipment, and the ordinary staff, provision had also been made to use these to the best advantage by appointing to them, according to the individual needs of the farms, officers of specialized training and talent. To do so in every case would, of course, have involved a considerable expenditure in salaries; but if one of the farms had been staffed on lines which would approximate to the central experimental stations in Canada or the United States, a few trained experimentalists working in co-operation with the central station would meet the requirements of the other provincial or branch farms or experimental areas. It does not by any means amount to the same thing that expert officers are provided so long as these are stationed in Wellington. Agriculture and agricultural research ought not to be so exclusively matters for laboratory investigation. The investigations of experts ought to be brought into vital relationship with the actual affairs and needs of the farm and the field, and the officers concerned should have first-hand facilities for pursuing their investigations, such facilities as can only be obtained at an institution centrally located, but, above all, located on a farm in the country where the officers would be freed from much routine administrative duties.

Such an arrangement seems to me to be very desirable in another respect. We have not in New Zealand as yet any means of affording to young men who have undergone suitable preliminary training an advanced education in agricultural science, the better to equip them for farming and for improving the general system of agriculture in the districts in which they would eventually conduct their farming operations, on the one hand, or to qualify them for State service in agriculture. Such qualified men are not available at the present time, although there are many parts in New Zealand where a trained officer delegated to perform the functions appropriate to a district representative or county agent (already referred to in these pages) would be of tremendous benefit, and would undoubtedly lead to a rapid progress in improved agricultural methods throughout the Dominion. And yet a suitable scheme of training could be easily brought about by the adoption of the previous suggestion. With an expert staff stationed at a central experimental station, the training and education of a sufficient number of capable and enthusiastic young men could be undertaken. In a few years these men would be available for inspection-work, for supervising experimental areas, and as local instructors and demonstrators, and the anomaly of employing for this class of work men of no training and very little aptitude would cease.

At such an institution also short courses of practical instruction for farmers and farmers' sons could be undertaken from time to time, and ways and means for the training of teachers in rural science could be adopted. The great obstacle to bringing the education of the rising generation more into line with its environment and experience is simply that education has not hitherto been related to the actual affairs and daily life of the people. It is conceded that in an agricultural country the youth should be educated to a very large extent through, instead of away from, its environment, without running any risk of making education too exclusively vocational. But in order that this may be brought about it is necessary to educate the teachers first to a knowledge and appreciation of agriculture and rural life. To such an end a central experimental station, in the absence of any other institution devoting itself thereto, might be made to contribute.

With regard to local problems which are continually calling for attention from the Agriculture Department, it may be proper to again refer to the system introduced by Mr. Grisdale, of the Dominion Department, as one worthy of trial in New Zealand. If such a system could be introduced and operated in conjunction with the local agricultural committees which have recently been formed in New Zealand, it is probable that better results would be obtained than have hitherto been possible through the small-plot system of experiments hitherto in vogue. These small-plot experiments have not been unproductive of good—in fact, quite important advances have been made as a direct outcome of these experiments—but the difficulty of getting the experiments carried out according to the specifications of the instructors has always been a serious one, and, on the other hand, the farmers have not been inclined to place unbounded confidence in experimental results derived from small areas. In particular, the harvesting of the crops or the feeding-off of forage crops where the areas have been small have presented so many difficulties that in the majority of cases the experiments have not been carried out to a conclusion which would permit of reasonably exact financial data being obtained. The system outlined as being now in vogue in Canada obviates these difficulties, and can confidently be recommended for trial at any rate. To a very considerable extent these experimental areas could be located in New Zealand at the various institutional farms, mental hospitals, prisons, industrial schools, &c., as has been done in the United States.

Of all the agencies by which the American and Canadian Departments convey knowledge to the communities which they serve, perhaps the most unique, and not the least effective, is the agriculture train service previously referred to. In this country a considerable sum of money is annually spent on making exhibitions at the larger shows. Such exhibitions are desirable, but they fall far short of the possibilities of instruction and education, simply from the fact that they are staged at shows and are regarded too much in the light of mere display. The people gather to the shows in holiday mood in search of entertainment, and not in a frame of mind to grasp a lesson or even to seek advice. Moreover, the struggling farmer, who is generally most eager for information which would lead to an improvement of his position, is not the individual who is most commonly encountered at our large agricultural shows. The agricultural train, with its equipment designed for instruction as distinct from display, and