

goes on by the best graduates of the College, would probably meet the needs of the first few years. The Institute should lay down a definite programme of work, with estimates for the approval of the supervising committee, which in turn would be subject to the general supervision of the central scientific authority I am recommending, and receive from it the Government contribution towards the cost of maintaining the Institute. The contribution from the industry would be made, I suggest, as a grant to the central organization for the purposes of dairying science for a period of years—say, five—by the Dairy Products Control Board. I have discussed this possibility with representatives of the Board, who entirely endorsed the proposal. Indeed, Mr. Brash suggested it himself. The committee of management should consist of—

- (i.) Representatives of science appointed by the central authority ;
- (ii.) Representatives of the Department of Agriculture's scientific staff ; and
- (iii.) Representatives of the industry nominated by the Control Board.

The chairman of the committee should be chosen by the central research organization. There should be a rota of retirement for its members. It should be the duty of the committee to encourage and bring into their programme work being done in other localities, such as that of the Federated Butter-factories' laboratory at Hawera, and that of the New Zealand Co-operative Dairy Company at Frankton Junction ; while the central organization should use the funds at their disposal not only for the maintenance of the Dairy Institute attached to the College, but for assistance to these outlying co-operative centres. Indeed, the central organization and the committee should do everything in their power to induce other districts to follow suit. In drafting their programme the committee should also have regard to the work being done by the Department of Agriculture. Accordingly I suggest that the £1,000 a year now found on the votes of the Department of Agriculture for the Hawera laboratory should be transferred to the new central organization.

26. In considering the programme and estimates submitted annually by the committee of the Institute, the central organization would be careful to envisage the work being done or proposed to be done by the science laboratories of the State, and especially those of the Department of Agriculture, as well as the work done or proposed in University laboratories or in endowed institutions such as the Cawthron Institute. In this way they should be able, by consultations with representatives of these organizations, to see the totality of the work done covered the ground so far as available means and men permit. In Section VII I describe the means suggested for securing this consultation.

27. It has been suggested, I understand, that the Department of Agriculture should itself establish a dairy research institute at Wallaceville for a general attack upon the problems of this industry ; but I hope that what I have said may lead to a reconsideration of this plan in the interest of economy and, I may venture to add, efficiency ; for, apart from the difficulties inherent in a comprehensive plan of investigation in any field by an administrative Department of State, to which I have already referred, I am inclined to think that Wallaceville is not a suitable site for such an institution. A dairy institute should be centred in a district engaged in the butter and cheese industry if it is to establish that intimate contact with the industry and its needs that the circumstances demand ; and an institution which had to send to Wellington for supplies of milk from other than official herds would find it physically impossible to attack many of the problems before it. There is another point in this connection of some importance. It is essential for the success of a research institution, especially in a new country, that the staff should be in close touch with the people affected by its work. The success of the Cawthron Institute is largely due to this cause. The staff of the Institute should spend part of their time regularly in the field explaining to the farmers, factory-managers, and field officers what they are aiming at and what they have achieved. Short lectures, demonstrations, and ten-minute talks on the wireless should all be pressed into their service, as well as visits to the laboratories by those who should be interested in the work. It is obvious that the nearer the institute is to a dairying area the easier it will be to do all this with the minimum loss of time to those concerned.

28. Just as the staff of the research institutes, whatever their scope of work, should go out into the field—because printed publications can never reach more than a few of those who ought to study them—so the Agricultural College itself should have the facilities and means, I submit, of sending its young graduates into the field for a time, after their course of instruction is over. Here again co-operation with the Department of Agriculture is necessary and desirable. The young graduate should work as an adjutant to the field officer of the Department. He would learn from the trained official many things untouched in his University course, and he would be able to give something in return—a youthful enthusiasm and a leaning towards new views, which would enrich the departmental service. Incidentally the Department would find such an arrangement the best possible training-ground for the field officer of the future.

Other Institutes.

29. The foregoing description of the proposed Dairy Institute would apply, *mutatis mutandis*, to other special institutes which will undoubtedly be called for as time goes on. There should be a similar institute for grain and grass crops* ; for fruit and fruit transport ; for cattle, sheep, and meat transport ; but these will probably have to await the development of the College into a multi-faculty institution. But even more important than these perhaps is an institute for the study of the economics and accountancy and finance of farming, which is a business and needs to be put on a business

* It will be very difficult, if not impossible, to select any site for the new College which will be suitable for research and experiment in wheat breeding and growing. The South Island is the natural place for this work ; a beginning has already been made at Lincoln College, and a special wheat institute dealing possibly with other grains should come into existence in close connection with Canterbury College, Christchurch, financed and managed on the lines already described, under the direction of the central organization.