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ST. MARTIN'S STREET
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Telegraphic Address :
PHUSIS, LESQUARE, LONDON

Telephone Number :
WHITEHALL 8831

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Empire Co-operation in Agricultural Research

THE term 'scientific' applied without qualification to the British Commonwealth Scientific Conference held on September 21–October 8 is scarcely accurate. Only a part of the machinery of science was under consideration: that part, especially of the sciences relating to agriculture, which is organized on a co-operative basis between the Governments of the British Commonwealth. The delegates to the Conference were mostly those concerned with the administration of Government scientific departments or of national research organizations; few were persons actively engaged in scientific work themselves.

Even within these limits, the field covered was a large and interesting one. Scientific co-operation of the kind that the Conference reviewed began in London, with a group of African Colonies that had a common interest in the development of knowledge of insect-borne diseases. The Entomological Research Committee set up by the Colonial Office in 1909 became a few years later the Imperial Bureau of Entomology, established on a wide basis of Empire co-operation and charged with the documentation of entomological knowledge and the identification of insects injurious to man and to his crops and stock. This was followed in 1920 by the formation of a similar, jointly maintained, central organization to deal with the fungi and bacteria that injure crops or are otherwise of economic importance—the Imperial Bureau of Mycology. As a result of the Imperial Agricultural Conference of 1927, eight new Imperial Agricultural Bureaux were established to cover the subjects of soil science, animal health, animal nutrition,

animal genetics, plant genetics (other than herbage), plant genetics (herbage), fruit production and agricultural parasitology. At the same time the two older Bureaux became Institutes, as they had functions considerably wider than those assigned to the eight new Bureaux, which confine themselves to the collection and dissemination of information. The new Bureaux are attached to research institutes in their subjects at Rothamsted, Weybridge, Aberdeen, Edinburgh, Cambridge, Aberystwyth, East Malling and St. Albans, while the two older bodies are in close contact with the Natural History Museum, South Kensington, and the Royal Botanic Gardens, Kew, there being no research institutes specially devoted to entomology and mycology in Great Britain.

The activities of these ten organizations, a survey of which formed a major part of the work of the Conference, has recently been described in considerable detail in the seventh Annual Report of the Executive Council of Imperial Agricultural Bureaux*. The Council comprises representatives of the United Kingdom, of each of the five Dominions, of India, Southern Rhodesia, and the Colonial Empire. It administers a service of common Empire interest maintained from a fund jointly subscribed by all the members of the British Commonwealth. The acceptance by Governments of the scheme proposed by the 1927 Conference and extended by the Skelton Committee on Economic Consultation and Co-operation which followed the Ottawa Conference a few years later,

* Imperial Agricultural Bureaux, Seventh Annual Report of the Executive Council, 1935–1936. Pp. 102. (London: H.M. Stationery Office, 1936.) 5s. net.

brought into being a new type of Imperial organization. A glance at the Council's recent report, which indeed will well repay careful reading, indicates how rapidly the service thus set up has expanded and how clearly it seems in most cases to have met a need.

The primary function is information. The world literature on the subject with which each Bureau or Institute deals is surveyed and in the main abstracted. The aim in most cases is to miss nothing, no matter where or in what language it sees the light. The *Veterinary Bulletin*, published by the Imperial Bureau of Animal Health at Weybridge, noticed some 3,000 papers in its last annual volume. Early notice and sufficient detail to be of value to the worker who may be unable to secure or read the original paper are the keystones of the service, the machinery for which has now been brought in most cases to a high level of efficiency. Special reports, in which the whole of the available literature on some particular subject is digested, are a feature of several of the Bureaux; technical communications and bibliographies of others. Translations or long abstracts are provided by some, while several maintain lending libraries available throughout the Empire, and all are prepared to answer inquiries to the best of their ability. The two older Institutes are characterized, in addition, by a considerable organization for the identification of insects and fungi.

Visiting parties from the Conference spent much time in examining the work of these ten Bureaux and Institutes, and also in considering the possibilities of extending the organization to cover other fields, especially those of dairy science and forestry. What conclusions have emerged from the subsequent discussions in plenary session will, no doubt, become known in due course. At least one may hope that the report to Governments will recognize how much easier has been made the path of the research worker in many branches of agricultural science in knowing what has been and is being done in his chosen field, and thus set off, against the danger of superficialism to which such 'crammed' knowledge might lead, the increased efficiency that must come from the early and wide dissemination of the results obtained by other workers. It is a fair claim that in this kind of organization the British Commonwealth at present leads the world.

In its touring programme the Conference did not confine itself to these joint enterprises. Several of the agricultural, veterinary and dairying

research institutes were visited and also some of those under the Department of Scientific and Industrial Research, and the Imperial Forestry Institute at Oxford. In all cases the inter-Imperial aspects of the work came under notice, but evidently more as a guide to the development of research in the various countries of the Commonwealth, than with a view to the extension of jointly financed research projects. Co-operation in Empire research, as distinct from the documentation of research, is tending more in the direction of interchange of programmes and personnel and the holding of conferences than in centralization of staffs and joint finance. It cannot be doubted that this is a healthy sign of the vigour of scientific development overseas, but it is equally clear that important research work is waiting on facilities that no single part of the Empire has as yet felt impelled to provide. Exceptionally there has been financial co-operation in research schemes on subjects such as the transport and storage of foodstuffs and locust investigations, centred at institutions in England, and proposals were before the Conference for a joint investigation into the control of termites. Usually, however, the investigational work done at a central station in the special interests of an overseas Government is paid for by an *ad hoc* grant from that Government, and such work is necessarily limited to problems on which some institute in the country is already engaged.

Considerable as is the field covered by the inter-Imperial organizations now in being, these limitations in their scope are leaving untouched many fundamental investigations that may not be urgent in any single member of the Commonwealth but are of great importance to the whole.

Another aspect of the Conference that should be mentioned was the emphasis laid on the value of the contacts established through the holding of periodical meetings not only of those charged with the direction of research but also of the actual workers in the different fields of applied science. Imperial Conferences are already held in a few subjects at intervals of five years or so, and an extension of this principle seemed to be indicated. Perhaps the greatest value of the Conference just concluded has been the opportunity it gave to members of getting to know the personalities and interests of their 'opposite numbers' in other parts of the Commonwealth and thus to secure a spirit of co-operation that is beyond the reach of official agencies.