

its lines, providing them with the latest literature on every subject which may be of interest to them, arranges conferences and demonstrations at convenient centres to which large attendances are assured through free travelling facilities, visits to other countries to study the conditions prevailing there, and also provides free carriage on their system for chemicals and spraying apparatus. The conferences are not confined to university professors and researchers in phytopathology, but the chemist and physicist, the manufacturer and the engineer take their place beside the practical man. Lively discussions result from such a gathering of experts, and not unusually the grower is able to hold his own. We were particularly struck by the keenness of the grower in everything pertaining to spraying, and whatever may be the opinion prevailing in Great Britain as to its value, there can be no doubt that the French agriculturalist is a firm adherent to the practice.

The phytopathological is but one side of the work carried out by the P.L.M. Railway. Since 1912 it

has founded 138 experimental nurseries for the training of the peasants, and also many school gardens, subsidised largely the research station at St. Genis-Laval and the Insectary at Mentone, experimented with many varieties of strawberries, established a nursery for growing cypress for hedging, and distributed hundreds of thousands of plants free, fruit trees, vines, black currants, asparagus, artichokes, tomatoes, and osiers being the chief, but potatoes and winter vegetables have also received their share of attention. In addition pisciculture, viticulture, and sericulture owe much to the liberality and the encouragement of the Company. A huge organisation and a well-filled purse have always been behind these movements. What is the result to the Company? In 1910 it carried 190,000 tons of fruit and vegetables, in 1925 this had grown to 488,850 tons, so that the results of its labours are reflected in the balance-sheet at the end of the year in such a way as to encourage the Company to continue in the work which they are doing with such conspicuous success. L.

A British Expedition to the Sepik River, New Guinea.

AN expedition has been planned and is now being organised by Mr. V. A. C. Findlay, the object of which is to penetrate to the central mountain chain of New Guinea and locate the head-waters of the Sepik River. There is at present a theory that a large lake lies between the Victor Emmanuel Range to the north and the Müller Range to the south, which feeds both the Sepik and the Fly Rivers. In 1891 Sir William MacGregor reached a point on the Fly River in the territory of Papua at lat. $8^{\circ} 11' S.$, long. $141^{\circ} 54' E.$, and of recent years a number of explorations of the head-waters of the Fly River have been carried out by officers in the Papuan service. In 1913-14 Dr. Behrman's expedition proceeded up the Sepik River in what is now mandated territory and the advance party reached lat. $8^{\circ} 11' S.$, long. $141^{\circ} 36' E.$ in the Victor Emmanuel Range, but failed to attain the objective of the expedition, the source of the river. A survey was made up to the point reached by the advance party.

The object of the present expedition will be not only to locate the source of the Sepik, but also to cross and survey the country lying between the head-waters of this river and those of the Fly. Geological, anthropological, zoological, and botanical observations will be made on the way, and if the objective is attained, should lead to results of great importance, as the higher and hitherto unexplored parts of the central mountain chain should produce much new and valuable material in each of these branches of science.

The expedition will proceed by launch to the

highest possible point on the Sepik, where a base will be formed. From this the main party will proceed into the hills. Should they succeed in reaching the Fly, they will return down this river, the base party returning down the Sepik independently. The base party will be in communication with the authorities at Rabal by radio, and the main party will keep in touch with the base by means of a small transmitting set. A kinematograph outfit will also be carried.

The personnel of the expedition so far as arranged at present consists of Mr. V. A. C. Findlay, leader and agricultural and topographical surveyor; Mrs. Findlay, engineer, radio operator and photographer; Mr. A. J. Hill, engineer and radio operator; Mr. K. H. Henderson, zoological and botanical collector; Mr. W. S. Malcolm, anthropologist; and Mr. C. T. Teychenné, geological surveyor.

The expedition has received the approval of the Royal Geographical Society, the Royal Anthropological Institute, and the Committee for Anthropology of the University of Oxford. The expedition is being organised under the direction of a council of which Lord St. John of Bletso is president, and Mr. Henry Balfour, The Hon. Mr. H. A. Casson, and Dr. A. F. R. Wollaston, are members. At the recent meeting of the British Association at Oxford a committee was appointed to co-operate in the work of organisation. The estimated cost of the expedition is 6000*l.*, and contingently on that amount being raised, the expedition will leave England in the autumn of 1927.

The Pelagic Young of the Cod.¹

MR. MICHAEL GRAHAM and Mr. J. N. Carruthers have attempted to correlate the known distribution of the pelagic young of the cod with the theoretical distribution deduced from three factors—market statistics, wind records, and experiments with drift-bottles. The theoretical part is undertaken by Mr. Carruthers, the practical part, dealing with the actual catches of the young fishes, by Mr. Graham. In addition Mr. H. H. Goodchild investigated the food of the fry from the same samples. Three questions

are involved in the present paper: First, to what extent the drift affects the pelagic fry in the North Sea; secondly, what is the distribution of the fry; and thirdly, what is the food of the young in the pelagic stage? To answer these questions the market statistics were used to ascertain the spawning-grounds and times, the methods being justified by previous work of one of the authors in 1924. A system of cruises was undertaken to fish for the larvæ and post-larvæ from these spawning-grounds outwards; experiments with drift-bottles were made and wind statistics consulted. The ascertained distribution was then compared with the theoretical distribution, and the results were found to be so much in agreement that the authors seem to be justified in their con-

¹ "The Distribution of Pelagic Stages of the Cod in the North Sea in 1924 in Relation to the System of Currents," by Michael Graham and J. N. Carruthers. With a section on "The Food of Pelagic Young Cod" by H. H. Goodchild, Fisheries Laboratory, Lowestoft, Ministry of Agriculture and Fisheries. Fishery Investigations, Series 2, vol. 8, No. 6, 1925. London: H.M.S.O.