

"We take it that there would probably be immigration laws against the importation of foreign labour to cope with the pack. If not, quite conceivably Norwegian labour could be transported for the purpose. The labour prices that you name sound so abnormally high that we should imagine it would be very difficult to make a commercial product with this type of work."

We quote this correspondence at length because it shows that the Board was justified in commencing this investigation. Until, however, proper drift-nets are available, progress must be slow and unsatisfactory.

Ova of Flat Fish.—The number of ova hatched out this past season was smaller than usual. The following is taken from Mr. Adams's report: "As is usual during August, the spawning season of the flat fish, the weather was mostly stormy. The fishermen reported it to be the worst month experienced for some years past. Owing to the unfavourable weather we were only engaged in trawling on four occasions during the early part of August. Soles were scarce, but the few taken were in good condition and ready for spawning. Common soles (*Pektorhamphus novae-zealandiae*) and lemon soles (*Pelotretis flavilatus*) were the principal fish caught. Brill (*Ammotretis guntheri*) were exceptionally scarce, only one male being taken during the four days spent in trawling. A few brill taken by the steam trawlers were examined, but we were unable to secure any ripe female fish. From the 16th to the 27th August no trawling was carried out by any of the boats, the weather being too severe."

On the 28th August two hauls of the trawl were made off Pipikariki, halfway between Otago Heads and Cape Saunders, when a considerable number of fish—soles, lemon soles, brill, and common flounders—were taken. All were spent and in very poor condition.

Rock-oysters.—Mr. Adams reports: "The cultivation of the southern rock-oysters was continued throughout the year. The largest oysters, which measure 2 in. in diameter, have not increased in size during the past twelve months. This is only what is to be expected, as, of the hundreds which have been attached to the walls of the ponds for at least ten years, I have only found a few which measured $2\frac{1}{4}$ in. The smallest oysters, this year's spat, on the roofing-slates, measured $\frac{5}{8}$ in. These slates have not proved so suitable as the heavier concrete plates, as, being brittle, several have been broken when being cleaned of marine growth. Trouble is also experienced with them during windy weather."

Suter, in his "Manual of the New Zealand Mollusca," gives the length of the Dunedin rock-oyster (*Ostrea tatei*) at 66 mm. and the height at 60 mm., which are respectively $2\frac{5}{8}$ in. and $2\frac{3}{8}$ in.; but this is a somewhat extreme size. The animal is nearly as large as the Auckland rock-oyster (*O. glomerata*), though the shell of the latter is about 80 mm. (or $3\frac{1}{8}$ in.) in diameter.

Collections.—Mr. Adams states in his report: "As much time as possible was spent in seining on the banks inside the harbour. The small-mesh net in the bunt allowed us to catch garfish and other small species during their season. These fish and all rare specimens were handed to Mr. Young. The observation-tanks were mostly stocked with fish taken by the seine net, and the greater part of the fish food used throughout the year was also caught inside the harbour. About a hundred fish have now been collected for a foreign order, and the greater part of this collection consists of species which are not common, and which have been somewhat difficult to secure."

Mr. S. Broadley, Assistant Curator, paid a visit of inspection to the outlying fishing-ports twice during the year. Visits were also paid by him to Milton and Clutha districts, in order to report on the proposed restricted fishing-areas. His district now includes Waikawa, and in consequence more of his time is taken up in his duties as local Inspector of Fisheries. The Dunedin fish-market was visited every week until October, when he received instructions that the market was to be inspected only once each month, and Port Chalmers weekly. The quantities and prices of the fish sold on the market during his visits have been recorded."

Mr. Maxwell Young, Biologist, has had a very busy year. The collection of fish for the College of Natural Science, Philadelphia, has been prosecuted steadily. The first shipment, mainly of local fish, was made in December last. At present date a further collection of forty-eight specimens is ready.

Professor Benham, of the University Museum, has been supplied with a varied collection of specimens during the year, consisting mainly of polychaetes, tunicates, and echinoderms.

Professor J. Malcolm, Professor of Physiology in Otago University, has been supplied with the epithelial islets of several fishes, notably blue cod and groper, for his researches on insulin; and also with considerable quantities of whale-feed, and red cod feeding on whale-feed, for his investigation on fish-oils and food-values. Dr. Malcolm's report on this material is as follows:—

"During the past, as in previous years, the Marine Station at Portobello has been of very great assistance in providing material for research work in this department. Mr. Maxwell Young went to a great deal of trouble to dissect out the minute islets of Langerhans from groper, blue cod, and various other varieties of fish. The identity of the islets having been established by microscopic examination, we are in a position to estimate the insulin present, and Dr. Stokes, of this department, is now engaged in this work. At present insulin is imported for the treatment of diabetes, but it may be necessary or economical at some future time to depend on local sources of supply, and the islets of fishes yield a powerful solution of the substance.

"Recently I have been obtaining from the station supplies of whale-feed and red cod taken at a time when the cod was feeding entirely on the former. The oil in both is being investigated with a view to obtaining some knowledge of the changes the oil undergoes in the body of the fish. During the winter Dr. Stokes and myself hope to be able to do some work directly on the living fish at the station. These facts speak for themselves. It would have been impossible to carry out such work without the facilities afforded by the station, and I sincerely hope that the Government will do more and more as time goes on to increase these facilities for research."