

The inclement weather that prevailed throughout the season added considerably to the difficulty of gathering and shipping the supplies, and much credit is due to pickers and overseers, and especially to the Senior Inspector of Fisheries, in charge of the general organization, for the smooth and efficient working of the operations.

The numbers of sacks marketed from each area were as follows: Bay of Islands, 800; Whangarei, 219; Kaipara, 400; Hauraki Gulf, 914; (Takatu - Gull Point, 72; Kawau, 48; Rakino, 60; Motutapu, 120; Waiheke, 578; Ponui, 36); Coromandel, 300; Great Barrier Island, 404: total, 3037 sacks.\* The gross proceeds from sales amounted to £3,762 6s. 8d.

In endeavouring to meet fairly the demands that were always in excess of supplies and in handling difficulties arising from shipping delays caused by bad weather, the men in charge of sales at the depot had a particularly harassing season, but performed their duties to the complete satisfaction of the Department. The oysters marketed were generally of very good quality—one uniform grade of quality is of course impossible—and would probably have sold just as readily had the price been substantially higher. As has happened previously when the rock-oyster output was sub-normal, a great deal of criticism appeared in the local press concerning the shortcomings of departmental control of the oyster-beds and oyster trade: private enterprise under a leasehold system was advocated, and, once again the New South Wales oyster industry was pointed to as an example of what should be done in New Zealand. The practical points upon which these propositions all turn have been discussed in previous reports, and more especially in the comprehensive memorandum on the oyster industry of New South Wales by Mr. M. W. Young which appeared as an Appendix to the Report on Fisheries (reprinted from the Annual Report of the Marine Department) in 1929. The additional understanding of oyster conditions gained since that date has not contributed any new point in favour of individual enterprise on the Australian system. Without retraversing the whole question, it may be said that the reason the Australian system is not copied here is that the natural conditions for oyster-growth and oyster-reproduction are decidedly less favourable here, while the market price of our rock oysters is lower.

In considering the economics of the Auckland rock-oyster industry it is essential to bear in mind that we are dealing with "wild life" and not with primary products like wheat or potatoes the supply of which can be varied by the cultivator at relatively short notice in response to the stimulus of increased demand. What has been conveniently termed "oyster cultivation" has been carried on by the Department since 1911; but, of the oysters marketed annually, only a small proportion have been derived from "cultivation work" that has consisted of creating new oyster-beds on ground that did not previously contain oysters. A fundamental difference between the oyster-farmer and the agriculturist is that, while the latter prepares the land and sows the seed he has procured, the oyster-farmer has to leave the sowing of the seed to Nature. A successful setting depends on two main factors—(1) There must be an adequate supply of "seed," which in this case consists of the minute eggs liberated from spawning oysters and the microscopic embryos that develop from the fertilized eggs, and therefore implies an adequate supply of parents; and (2) the conditions must be favourable for the survival (as well as the production) of embryos and their successful fixation on a suitable resting-place. That is only the beginning. The "crop," under New Zealand conditions, may have to remain for a period of six or seven years before it can be harvested. We cannot control Nature: we can only adjust our operations to harmonize as much as possible with the conditions she imposes. That is why research is essential—to enlighten our understanding of those conditions. Such research has been conducted for many years by scientists in other countries, but only recently has appreciable progress been made in the elucidation of some of the factors involved. The researches are still being prosecuted, and progressively light is being thrown upon conditions not previously elucidated and about which the question of control could not even be considered. Only as a result of such scientific elucidation can cultural operations become more specialized and more intensive in practice or more extensive in effect. In New Zealand our understanding of the biology of our oysters is at the elementary and superficial stage, and must remain so until a specialist can concentrate on the investigation of the subject; for the oyster must be studied in relation to the environment in which it is actually living. That oyster-culture has produced very valuable results, even on the basis of a partial understanding of the biological factors, may be seen in New South Wales to-day, and might have been seen in France a century ago or in China a thousand years ago. Such cultural methods have been the result of a system of trial and error; and many have been the failures and financial losses where the methods have been tried under the wrong conditions. The lesson to be learnt from the history of the world's oyster fisheries is that the conservation of natural supplies was universally neglected till it was too late, and then artificial, or rather semi-artificial, culture was developed in order to restore, or partially restore, deficiencies brought about by depletion from over-exploitation. And with that change came a substantial rise in the price of oysters everywhere: for whereas "wild life" is cheap, cultivation costs money. In New Zealand the demand for oysters has been such that sales were always easy and production was thus stimulated. It was production to the markets, however, not production to the stocks. Every thousand sacks of oysters that are taken from the beds reduces by about a million the stock of parent oysters from which the next generation is to be derived.

The all-important fact to be recognized is that, where "wild life" is concerned, demand does not stimulate production: it stimulates reduction. And that is what happened with our rock oysters: the reserve of breeding stock, which determines the quantity of "seed" available for the propagation of the species, has been subject to too great abstractions in order to turn oysters into cash. The old natural beds had been greatly depleted before departmental control was introduced, and in places where this control has not been in operation they are now annihilated. The depletion continued

\* One sack = three bushels.