

varieties of edible fish, the extent to which it occurs in coastal waters, and variations in its composition, have important bearings on the whole future of the fishing industry.

Other investigations are in progress upon the food, habits, age, propagation, and diseases of both native and introduced species, special attention (in co-operation with the Marine Department) being devoted to salmon and trout.

#### COLD STORAGE.

The development of a successful market for New Zealand fruit in the United Kingdom is dependent upon the devising of suitable means of transport by way of cold storage. Fruit, being a living entity, presents problems very different from those appearing in the case of such materials as meat, butter, and cheese. As yet, knowledge of fruit transportation under cold-storage conditions is too imperfect to give full assurance that cargoes can be landed in London, the world's best market, in sound condition with no predisposition to rapid wastage.

Acting in co-operation with the Low-temperature Research Station at Cambridge, and with the shipping companies, arrangements for the most complete investigations into the behaviour of fruit under cold-storage transportation conditions were made, through the co-operation of the Agricultural Department and the Fruit Control Board. The vessels under examination carried special recording-instruments; cases of fruit of known origin and quality were packed in New Zealand, accompanied by a complete life-history, and were despatched under ordinary cargo conditions. These were subject to examination by skilled officers of the Low Temperature Research Station at Cambridge, England, and the results have been compiled. While it is not anticipated that the results of one year's work will give conclusive information on all the phases of this very difficult problem, yet results of definite value have emerged.

Work also is under way on conditions which may cause loss of bloom of meat under cold storage and transportation.

A local problem of considerable interest to onion-growers has also been attacked. The difficulty of keeping onions in sound condition for sale in the spring and summer months has not yet been successfully overcome. As a result the Dominion is obliged to import its requirements, and, in consequence, onion-growing locally is restricted by the capacity of the market to absorb its produce during a limited portion of the year.

Tests are being conducted in Christchurch at the present time to record the behaviour of onions under cold storage, and, if possible, to devise methods of maintaining their condition sound and marketable under this treatment. These tests, carried out in co-operation with the Department of Agriculture and the growers, if successful, should help to encourage onion-growing until the Dominion is self-supporting in respect of this commodity.

#### PAKIHI LANDS.

The desirability of bringing into utilization the waste lands of the Dominion has led to experiments being planned to deal with the pakihi lands of Nelson and Westland. These cover an area of some 180,000 to 200,000 acres, the present total production from which is negligible in amount. Small-scale experiments which already have been in progress for a short period show some promise, and it is hoped ultimately to indicate possible economic methods by which the lands may be brought into utilization. The experiments now in progress are being conducted by the Cawthron Institute with funds supplied by the Westport Borough Council, the Buller County Council, and the Department of Scientific and Industrial Research. The Department of Agriculture also is collaborating with Cawthron Institute with regard to the method of attack.

#### WOOL.

A prolonged survey has been made of the difficult question of what researches are most worth while in connection with improvement in quality of wool. In connection with this survey, tests of wool-fibres have been carried out, and considerable information collected from research organizations overseas. It is important that any marked trends in the quality of our wool should be discerned, contributory factors such as breed, management, or nutrition isolated, and guidance indicated as to remedial measures.

The Romney Association have pioneered this work by a grant. A strong advisory committee composed of wool-growing interests, Agricultural Colleges, with officers of the Departments of Agriculture and Scientific and Industrial Research, has the question in hand, and has put forward suggestions for definite investigational work.

#### MEAT INDUSTRY RESEARCH.

Negotiations are still proceeding with representatives of the meat-freezing companies with the object of the formation of a Meat Products Research Association, in the management of which the industry representatives will predominate. Meantime, investigations have been made into most phases of the industry, and two processes—viz., dry-rendering and nitrite pickling—have been specially investigated.

Dry-rendering produces a large yield of highly nutritious meat-meal, which will prove of great value in connection with pig and calf feeding. The use of sodium-nitrite pickle enables the production