

abandoned—the owners not being able to carry on, chiefly through financial reasons. The Government, through the State Advances Department, agreed under certain conditions to assist the fruitgrowers of the Mouere Hills district, Nelson, to carry out a specific orchard-manuring scheme.

*Orchard Diseases.*—Considerable improvement is noticeable in the control of orchard pests and diseases by the majority of commercial growers. There are, however, in the various districts persons (chiefly smaller growers) who, although given every opportunity by the Inspectors to comply with the regulations, will not take the necessary steps to keep their orchards clean, and it has unfortunately been found necessary to take proceedings against a number of these delinquents during the past season. Fireblight disease has spread to a slight extent in the Auckland district, although every effort was made to confine it to the areas already infected. The majority of orchardists fully realize the seriousness of the disease, and are giving every assistance to the Department in our endeavour to keep it under control. In some districts a considerable amount of damage has been done by mealy-bug and pear-midge. These pests are somewhat difficult to keep in check, and further experimental work will require to be carried out during the next season with the view of arriving at a satisfactory means of control.

Colonies of *Aphelinus mali*—a natural enemy of the woolly aphis—were received from the Cawthron Institute and distributed to the chief fruitgrowing districts. In the Hawke's Bay district this insect is reported to have become firmly established on the trees specially set aside, and is doing good work in controlling the aphis. Reports from other districts are not so satisfactory. The operations of the parasite will be watched with interest, but it will take a season or two to determine whether it will be successful in combating the aphis to any appreciable extent.

*Export of Fruit.*—The total quantity of fruit exported during the 1922 export season was 112,345 cases of apples and 8,148 cases of pears. Of these, 107,330 cases apples and 8,133 cases pears were shipped to England, 3,515 cases apples and 15 cases pears to Honolulu, and 1,500 cases apples to South America. This constitutes a season's record in the quantity of fruit exported from the Dominion since exporting commenced. Unfortunately, in a number of instances the fruit arrived in England in a more or less deteriorated condition, and this, together with the fact that the market was heavily supplied by shipments from Australia, resulted in low prices being too often obtained. As a consequence claims to a considerable extent had to be made on the Government guarantee of 1d. per pound net return to growers. Inspection and grading of the fruit prior to shipment was carried out efficiently by officers of the Division under the export regulations.

*Experimental and Instructional Work.*—The practice of carrying out experiments with spray compounds for the control of orchard pests and diseases has been continued. Manurial and cover-crop experiments in orchards were also conducted. Experimental work in connection with the cool storage of fruit was carried out in co-operation with the Biological Laboratory. Following the usual practice the Orchard Instructors have during the winter months given practical demonstrations and lectures in their respective districts on matters relative to orchard-management generally. In most of the fruitgrowing centres apple grading and packing classes have again been conducted.

Satisfactory work is being done on the remaining co-operative fruit-testing areas. The areas still in operation are situated at Mangonui, Kumeu, Tanekaha, Henderson, Matatoki, and Hillersden. Among these the citrus-testing area established at Henderson in 1919 should provide both valuable and interesting information when the trials are complete. Co-operative areas for the testing of different varieties of vines have also been planted at Te Mata (Hawke's Bay) and Whakatu (Nelson).

*Cool Storage of Fruit.*—The fruit cool stores established in the chief districts have been kept running to their full capacity, a large quantity of fruit being placed in cool storage for use in the off-season. While in some stores the fruit has kept in a satisfactory condition, in others considerable trouble has been experienced by the fruit developing what is known as flesh-collapse or brown-heart. The cause of this trouble is somewhat obscure, and thorough investigations are being carried out by the Biological Laboratory in conjunction with the Horticulture Division with the object of arriving at a remedy for the trouble.

*Sale of New-Zealand-grown Fruit for Local Consumption.*—The Fruit Inspectors report that the bulk of the fruit coming on to the market is clean and of good quality. Some, however, is badly affected with disease, such as codlin-moth, black-spot, &c., and condemnations on this account have been necessary. The proper use of registered numbers is now being more satisfactorily adhered to by the majority of growers, and this facilitates the work of the Inspectors.

*Orchard Registration and Orchard-tax.*—The number of orchards registered during the year was 7,044, representing a total of some 30,000 acres. Tax-demand notices were sent out to all registered orchardists, and the amount of £1,982 collected.

*Registration and Inspection of Nurseries.*—The inspection of all nurseries has been satisfactorily carried out, and reports to hand indicate that the prospects of the nursery trade are now considerably brighter than they have been for some years past. A total of 560 nurseries were registered and inspected, and certificates issued, an increase of thirty-five as compared with the previous year. £560 was collected in registration fees.

*Horticultural Stations.*—Owing to the financial situation it was decided during the year to close down the horticultural stations at Tauranga and Arataki. These stations had done good service in carrying out valuable experimental work. At Tauranga arrangements were made with the Manager to take over a portion of the farm on his own account, to complete the tests in citrus-culture, and to supply the Department with full particulars of the results when the work was completed. At Te Kauwhata the grape crop was very good, and the crop was harvested under favourable conditions. It is expected that the quantity of wine manufactured will exceed that of the previous vintage. The sales of wine for the year were 4,378 gallons, valued at £3,490. On account of the wet season only about half the quantity of wattle-bark required could be stripped in the wattle plantations, but this was disposed of at good prices.

Papanui Experimental Orchard: Fruitgrowers generally have expressed themselves as being well satisfied with the results already obtained here, and with their concurrence it was decided to carry out the work during the remaining period of the lease on the most economical lines possible, with the idea of making the orchard more of a paying proposition.