### Effect of Rootstock on Cold-storage Quality

*Cox's Orange Pippin.*—The crop was too light to permit the taking of storage samples.

*Jonathan.*—Results were more closely in line with the 1943 data than with the 1944 data, but the position of M XV had improved. M XII and M XV showed consistently good storage quality in every replication of the trial. With M I and Northern Spy there was considerable lack of agreement among replicates, but there was a general trend toward more breakdown, fungus, and superficial scald than in the other two stocks.

*Delicious.*—There were no statistically significant differences in the storage quality of Delicious on Malling types I, XII, and XV or on Northern Spy.

*Granny Smith.*—Core-flush was more severe in fruit grown on Northern Spy stock than in that on M I, XII, or XV. This agrees with independent observations reported above in "Influence of Rootstock and Intermediate Scion on Core-flush in Granny Smith." M XII fruit was more severely affected by superficial scald than any of the others. Taking all disease factors into consideration, M I and M XV conferred better keeping-quality than either M XII or Northern Spy, between which there was little difference.

## FRUIT RESEARCH

*Advisory Committee.*—Sir Theodore Rigg (Acting-Chairman); Dr. G. H. Cunningham; Messrs. W. Benzies, H. H. Booth, F. R. Callaghan, W. K. Dallas, G. C. McMurtry, A. Miller, A. Osborne, G. D. Taylor, and L. W. Tiller (Secretary).

The Advisory Committee has been reconstituted, with a reduction in size, and at the same time an increase in the representation of the fruit industry. The industry's nominees now represent pip-fruit, stone-fruit, and citrus growers and are drawn from Auckland, Hawke's Bay, Nelson, and Central Otago.

An important development, practically completed at the end of the financial year, was the purchase of an orchard and general farm property in the Earnscleugh district, of Central Otago, to fill the long-recognized need of a research area for the study of problems peculiar to that area. Frost fighting will claim first priority, with irrigation, disease control, and soil problems featuring prominently in the research programme. A satisfactory solution of the frost problem will make possible the development of large areas for commercial stone-fruit culture.

In the ensuing sections is presented a summary of the principal results of research conducted by the several participating organizations.

### Research Orchard, Appleby

(*a*) *Long-term Manurial Investigations.*—These experiments continue to demonstrate the necessity for balanced manurial treatment of apple-trees on the Moutere Hills soil, and show clearly the economic advantage of such treatment. In the following summaries the average increase in crop over the untreated trees is indicated, in pounds per tree per year, calculated over the whole period of treatment. The average annual cost of the fertilizers used is also given. To simplify the presentation the chemical symbols P, N, and K are again used to indicate treatment with superphosphate at 4 lb. per tree, ammonium sulphate at 2 lb. per tree, and sulphate of potash at 1 lb. per tree, respectively.

*Cox's Orange Pippin:* N trees have averaged 42 lb. more fruit than the controls, at a cost of 4·3d. per tree per year, and PNK trees have averaged 78 lb. more fruit than the controls, at a cost of 10·0d. The present relative positions of the treatments are shown by the fact that over the past two seasons the N trees have averaged 91 lb. and the PNK trees 116 lb. more fruit per tree than the controls. Since the commencement of the trial the yield of untreated trees has declined heavily, whereas that of PNK trees has considerably increased. PK has been little better than the controls.