

Temperatures within the stores fluctuate with change of external temperatures, and it is therefore possible that the results obtained in orchard storage will vary somewhat from year to year. During the season under review, the varieties Sturmer, Granny Smith, Statesman, Rome Beauty, and Rokewood reached the end of their economic storage life by the end of June, Ballarat by early July, Dougherty by mid-July, and Tasma by the beginning of August.

Good control of wilt in Sturmer has been obtained by using a lining of waxed paper inside the case, but several points need to be investigated before it is known whether the method can be recommended for commercial adoption.

Fruit that it is desired to wrap and pack prior to orchard storage, for marketing without repacking, should be held in orchard storage for only very short periods of a few weeks.

Fruit of commercial grade does not appear suitable for long storage, because the blemish and minor skin-injuries allowed in this grade are potential sources of fungous infection.

Oiled wraps have failed to give control of superficial scald on the Granny Smith, but have very greatly reduced the incidence of lenticel rots. The latter effect has been noted above in another experiment on the refrigerated storage of this variety.

Weak summer - Bordeaux sprays have proved better than lime-sulphur sprays in controlling lenticel rots in Sturmer, but further study is necessary to eliminate certain adverse effects accompanying the use of Bordeaux before full advantage can be taken of this spray.

Superficial scald on the Dougherty has been confined chiefly to the uncoloured portion of the skin, and it therefore follows that the highly-coloured Extra Fancy grade is more suitable for orchard storage than are the Fancy and Commercial grades.

These investigations have been greatly facilitated by the valued co-operation of the Internal Marketing Division of the Marketing Department and the Horticulture Division of the Department of Agriculture.

TOBACCO RESEARCH.

Advisory Committee.—Sir Theodore Rigg (Chairman), Messrs. F. R. Callaghan, W. K. Dallas, N. J. Adamson, L. J. Schmitt, H. L. Wise, Ian Hamilton, C. C. Nash, F. A. Hamilton, B. T. Rowling, and J. F. Balck.

During the year four meetings of the Committee were held. Further progress has been made with the equipment of the Field Station at Umukuri by the purchase of a tractor, plough, and cultivator. The erection of the laboratory building has provided much-needed accommodation for office work and for the examination of seed and plant material. The whare has been extended, and arrangements have been made for the extension of the grading-room.

As a result of the resignation of Mr. J. M. Allan, difficulty was experienced in securing a suitable appointee to act as Director of the Station. Inquiries were made in Australia, Canada, and United States of America, but in no case were the applicants considered entirely suitable for the position of Tobacco Research Officer. After many delays Mr. R. Thomson, of the Agronomy Division, Lincoln, was appointed to the position, and arrangements have been made to send him to Canada and United States of America for nine months to secure first-hand experience of the flue-cured-tobacco industry.

At the request of the Committee, Sir Theodore Rigg has acted as Director of the Station, but owing to the absence of a resident officer considerable curtailment of the research work at the Station was inevitable. The farm foreman, and the field assistant have given invaluable assistance in carrying on the work at the Station under somewhat difficult conditions.

As in former years, tobacco investigations have been carried out partly at the Research Station and partly in the laboratories of the Cawthron Institute. At the Field Station, Umukuri, the work has been concerned mainly with studies of fertilizer requirements of tobacco and methods of placement of fertilizer to give the optimum result in both yield and quality of tobacco. At the request of the Committee a commencement was made in seed selection with a view to providing high-grade New-Zealand-grown tobacco seed for the industry.

Mosaic experiments have been continued at the Station, and further evidence in favour of bed-sown plants as distinct from pricked-out seedlings has been obtained in connection with reduction of mosaic incidence.

At the Cawthron Institute the investigations have included a soil survey of the tobacco lands in the Motueka and Dovedale Valleys, field plot tests to determine the extent of magnesium deficiency throughout the tobacco-growing district, chemical tests of tobacco quality, the extraction of nicotine from tobacco, the control of mosaic and other diseases of tobacco, and germination tests of tobacco seed.

WORK AT RESEARCH STATION, UMUKURI.

In view of the large plot variation revealed in the yields from the fertilizer experiments of the previous season, the manurial tests have been redesigned and transferred to more uniform soil. It is hoped that a considerable reduction in experimental "error" will result from these alterations, and that the yield data in future years will show significant differences due to the different manurial treatments.

Owing to the delay in the appointment of a Tobacco Research Officer it was necessary to reduce the experimental programme and the acreage of tobacco grown at the Station. This season 12 acres of tobacco were grown, as compared with 13½ acres in the previous season.

With the exception of a very hot dry spell during the Christmas - New Year period, climatic conditions were very favourable for tobacco at the Station. Good growth was obtained over the whole area with the exception of tobacco on the rotational plots, located on a coarse sand which dried out badly during the hot weather experienced early in January. A start was made with the harvesting of the leaf about the third week in January, and this was continued in good weather throughout February and March. Unsettled weather during the latter part of March interfered with seasonal operations, but