TOBACCO RESEARCH

Advisory Committee.—Sir Theodore Rigg (Chairman), Messrs. F. R. Callaghan, L. J. Schmitt, H. L. Wise, W. K. Dallas, N. J. Adamson, E. M. Hunt, C. Paynter, F. A. Hamilton, B. Jenkins, N. Rowling, and R. Thomson (Director of Station).

During the past year four meetings of the Tobacco Research Committee have been held. Reports presented by officers associated with the many aspects of tobacco research were received and programmes of future work were considered and laid down. General matters connected with the development of the tobacco industry and the progress of the Research Station received attention.

Climatic conditions during the past growing season have been extremely variable. Rainfall during the growing months was much below the average, January and February together totalling only 1·69 in. The position was further aggravated by the unusual prevalence of strong south-west winds which further depleted the already limited supply of soil moisture, as well as causing damage to some of the lower leaf. When rain did fall in March it produced a new growth, causing a delay in harvesting. The daily temperature range was unusually high. Although some day temperatures were high, night temperatures were low, bordering on frosts on several occasions. The Station crop was irrigated twice during the season, and therefore soil moisture was not a limiting factor. The leaf is thick and somewhat harsh, and the percentage of bright leaf will not be high, but the yield should be above the average. The 1944–45 crop was a light one, only 10,795 lb. being produced from 13 acres.

The research work this season, as in previous years, has been a co-operative effort carried out jointly by officers of the Cawthron Institute and the staff of the Research Station. The Institute work has included tobacco-disease surveys, investigations into the control and spread of various diseases, chemical studies dealing with the intake of plant nutrients, the chemical composition of cured leaf, and the chemical analysis of leaf from the field trials at the Station. Soil surveys of the Waimea Plains have also been continued. The Research Station has concentrated on the field side, which has included all types of fertilizer investigations, variety trials, seed-production work, plant-breeding, and mosaic investigations.

Soil Sterilization

In addition to the soil for Station requirements, a total of 316 yards for twenty-three growers was steamed during the past season. Most of this was used for the production of bed-raised seedlings. This is considerably more than twice the amount treated the previous season, and indicates that growers are becoming increasingly alive to the advantages of steam-sterilized soil in the raising of healthy seedlings. Continued wet weather during August made it difficult for some growers to get their soil sufficiently dry for sterilizing. Had it not been for this, the quantity treated would have been greater still, several orders being cancelled for this reason.

Fertilizer Experiments

1944–45 Season.—The trials were conducted in a season which was relatively cool and unusually wet with less than average sunshine. In an experiment to determine the optimum quantity of fertilizer to use per acre the applications were varied from 800 lb. to 1,400 lb. by intervals of 200 lb. Best returns were obtained from 1,200 lb. Although a further increase was obtained from 1,400 lb., it was hardly sufficient to offset the cost of the extra fertilizer. Increase in yield appeared to be due mainly to increased size of leaf, quality remaining fairly uniform throughout. This is a further confirmation of previous seasons' recommendations that an application of 1,200 lb. per acre is the most suitable for soils of the Station type.

Where the proportions of nitrogen and potash in the fertilizer were varied, the lowest yield came from the plot receiving the least nitrogen. Increasing the nitrogen above 4 per cent. resulted in a falling off in leaf quality. Varying the percentage of potash had little effect on yield but a marked effect on quality, the plots receiving the