

Special attention was directed whilst overseas to the question of disposal of wool-scouring effluent and to new processes and chemical auxiliaries. A report on these activities, together with a supplementary report on the organization of wool research in Great Britain and North America, has been circulated to members.

During the Director's absence, Mr. R. V. Peryman was in charge of research and service to mills. A bulletin was prepared and circulated to members, and six progress reports sent out. A range of technical service problems has been dealt with, including tests on batching-oils, scoured wool, washing fastness, and stains. Further tests have been carried out using Gammexane against carpet-beetle, using cops of woollen yarn containing 10 per cent. of batching-oil. Sufficient success has been achieved to warrant larger-scale mill trials when Gammexane is available in quantity.

Control work on unshrinkable finishes has been continued, some 200 samples of fabrics being tested. Further assistance has been given to two members in starting up their dry-chlorination plants, and four such dry-chlorination plants are now operating in New Zealand. Negotiations for a registered certification trade-mark for dry-chlorinated goods are proceeding. For two members using the wet-chlorination process, mill trials were carried out of improved procedures which demonstrated that some improvement of this method was still practicable.

Arising from the need (mentioned in last year's report) of a more accurate knowledge of the pH of dye liquors, particularly in metachrome dyeing, five mills have now installed pH meters. These are manufactured in New Zealand, and were tested and fitted with accessories by the Research Association before installation in the mills.

The mill tests on the manufacturing trial of hairy wool and on the combing trial of exported scoured wool have been completed. Some further laboratory work is required before reports can be finalized. Progress on this side has been slowed up by insufficiency of staff.

RADIO RESEARCH

The wartime Radio Propagation Committee and Radar Technical Committee have continued their activities in a peacetime capacity by the re-establishment of the Radio Research Committee early in 1946 with wider representation to include the three defence Services, civil aviation, and fuller representation from the Universities. The Chiefs of Staff also agreed to recognize the Committee as the technical Defence Committee on Radio and Radar Research. The functions of the Committee comprise the promotion and co-ordination of radio and radar research throughout the Dominion and to collaborate and assist the Universities in original research within these spheres. Such research undertaken by the Department comes within the purview of the Committee for consideration and recommendation as to policy and programme.

Radio Division, Dominion Physical Laboratory.—The Radio Division has been established on the Committee's recommendation, comprising Radio, Radar, and Electrical-Electronic Sections (see Dominion Physical Laboratory report, p. 59).

Ionosphere Activities.—As part of its wartime activities, the Department established six (6) ionosphere recording-stations in New Zealand and Pacific islands, with an analysis centre at Christchurch. These stations are part of a world network for the collection of data used in the prediction of optimum radio communication frequencies. The Committee recommended the permanent operation by New Zealand of stations at Lincoln (Christchurch), Campbell Island, Kermadec Island, Rarotonga, and Suva (Fiji) (the last on behalf of the British Government), with the analysis centre at Christchurch. The ionosphere work is now a permanent scientific service of the Department.

Seagrove Radio Research Station.—The Committee has considered and recommended for implementation a proposal submitted by the Professor of Physics, Auckland University College, for the establishment by the Department of a radio research station at Seagrove, Auckland, for fundamental research into the nature of radio waves in long-distance transmission to and from New Zealand. The researches have direct application