

NEW ZEALAND WOOLLEN-MILLS' RESEARCH ASSOCIATION (INC.)

As in previous years, much time has been devoted by the staff to problems and investigations submitted by the mills. Among this work there has been a considerable amount of routine testing of samples for properties such as shrinkage, yarn levelness, fibre fineness, abrasion resistance, and shower-proofing. This service is being steadily used by the mills in order to check their own standards.

Handle of Wool.—A main investigation now in progress is the effect of various "softening" agents on the handle of untreated wool. A fabric made from 56's quality wool is being used and treated pieces are being assessed for handle by several observers.

Softening agents are also being applied to samples treated with papain or chlorine, where their effect is more marked.

Papain-finishing.—A considerable amount of laboratory work has been done throughout the year, and a preliminary trial has been conducted at one mill, whilst another is preparing to make more extensive trials. Both treatment by papain and peroxide (perzyme) and papain after dry chlorination (chlorzyme) have been investigated. A mill trial of the latter process on some pieces of knitted fabric made from wool chlorinated as tops gave a superior finish after processing.

Loose wool has also been "chlorzymed," giving a filling suitable for quilts which may be washed without felting. With the co-operation of certain mills, such treated wool has been made up into sample quilts for an exhibit prepared on behalf of the Wool Board.

RADIO RESEARCH

The Radio Research Committee has continued to exercise its functions of reviewing, co-ordinating, and promoting radio research in New Zealand. The Committee assists in advising the Department on the conduct of researches of value to the radio communication authorities in the Dominion.

Ionosphere Activities.—The Committee has continued its general oversight of the ionosphere activities of the Department, comprising the ionosphere analysis and recording section at Christchurch and the four stations at Lincoln, Christchurch; Campbell Island; Rarotonga; and Suva. The ionosphere work is a permanent scientific service of the Department.

Seagrove Radio Research Station.—The necessary authority for the establishment of this station has now been sought from Government.

Microwave Propagation Research.—An officer of the Postmaster-General's Department, Melbourne, Australia, visited New Zealand to discuss on a collaborative basis a programme of measurements, with equipment obtained from the United Kingdom, on propagation conditions at frequencies normally used for radar. The Committee recommended for approval a New Zealand programme of investigations in this sphere in collaboration with Australia.

Research on Solar Phenomena affecting Radio Communications.—The Committee gave detailed consideration to the co-ordination of research by various organizations in New Zealand on such phenomena as sunspots, auroral effects, and magnetic and ionospheric effects, all of which have a disturbing influence on radio communications.

Other radio research matters considered by the Committee included radars for New Zealand coastal shipping, the establishment of a radio research office for the co-ordination and analysis of various aspects of radio research, and New Zealand representation at and presentation of papers to the British Commonwealth Scientific Specialist Conference on Radio Research, to be held in London, August, 1948.