

The Committee has maintained close contact with the New Zealand Institute of Chemistry (in regard to the placing of chemists in industry), the Federation of British Industries Industrial Research Secretariat, and the British Industrial Design Council, appropriate information being made available to industry.

As the immediate need to provide scientific and technical facilities for industry is being satisfied as fast as suitable staff and equipment will permit, the Committee anticipates being in a position during the coming year to give closer attention to its wider functions.

NEW ZEALAND WOOLLEN MILLS' RESEARCH ASSOCIATION (INC.)

Director: Dr. F. G. SOPER

Committee.—Messrs. W. R. Carey (Chairman), H. Lee, T. C. Ross, W. L. Wood, J. Revie; Drs. E. Marsden, R. O. Page; and Professor F. G. Soper (Director).

Incorporation.—The present year is the first as an incorporated society. The activities of the Association have continued smoothly and satisfactorily under the new method of administration. In this connection the setting-up of a Local Research Committee in Dunedin under the chairmanship of Mr. T. C. Ross has been highly advantageous, allowing of decisions on routine business and discussion of work carried on in the laboratories at approximately six-weekly intervals. Help and facilities continue, as before, to be given by the Head Office of the Department of Scientific and Industrial Research, and any information obtained by the officers of the Department thought likely to be of interest to wool-manufacturing research is made available.

Unshrinkable Finishes.—During the present year 274 shrinkage tests have been carried out in the laboratories. As pointed out last year, the firms which utilized regularly the services of our research laboratories for routine testing of shrinkage properties of wet chlorinated fabric are those who are employing a mill chemist. It can now be reported that one firm not employing a mill chemist is also forwarding regularly samples for routine testing. The research staff finds that when firms do not have regular shrinkage tests carried out their non-shrink finish is not reliable in quality.

Assistance has been given to two more members in installing dry chlorination plants. Four such plants should be operating in New Zealand before the end of the year. Specifications have been drawn up for a certification trade-mark of "Wool Anti Shrink" for association with wool manufactured goods treated by this process or other such process as shall later be agreed on as giving equal results.

A resin process for conferring non-shrink properties has been investigated and material sent to the United States of America for treatment, and the samples on their return have now been shown to most members of the Association.

Research into Dyeing Processes.—Dyeing research has continued along two lines. The first has been the study of metachrome dyebaths mainly by pH measurements in dyehouses; the second has been a study in the laboratory of methods of dyeing after chrome blacks. The latter has not made the progress hoped for when the investigation was started. Difficulties have been encountered in the measurement of the strength of wool fibres, but a new line of attack is now being made.

In studying metachrome dyebaths in dyehouses an important discovery was made by Mr. Peryman that under commercial dyeing conditions the use of ammonium sulphate is not a reliable method of neutralizing alkali in scoured wool or for controlling the pH of the dye liquor. This defect in ammonium sulphate is apparently due to the difficulty in volatilizing ammonia from the commercial dye liquor, a difficulty which hardly arises in small-scale laboratory dyeings.

The importance to the dyer of a knowledge of the pH of his dye liquors led a number of firms to seek pH meters for their dyehouses. Unfortunately, deliveries from overseas were slow and the cost high. Efforts were made to have a suitable instrument built in New Zealand, and these efforts resulted last December in the production of a mains-operated pH meter, built largely by the Physics Department of the University of Otago, which performed well under test. Arrangements have been made for the commercial production of these instruments in Christchurch.