

UNSHRINKABLE TREATMENTS.

A comprehensive comparison of the Freney-Lipson unshrinkable treatment with various wet chlorination processes carried out in members' mills is nearly completed. For this comparison, representative samples of most knitwear produced in the country were sent, as a result of a kind offer received from Dr. I. W. Wark, to the Council for Scientific and Industrial Research (Australia) to receive the alkali treatment. Other samples from the same material were, when possible, treated by the industry, and still further samples were left untreated. Shrinkage and various chemical tests for damage have been carried out on all the fabrics. Tests on the comparative resistance to bacterial attack of these fabrics are in progress. This work is being undertaken in the Bacteriological Department of the University of Otago, under the direction of Professor C. E. Hercus. Individual reports are to be sent to each member concerning his own fabrics, and a general report is then to be prepared for the benefit of all members.

Many shrinkage and other tests for severity and evenness of treatment have also been carried out for the industry, and assistance has been given at certain mills to establish better methods of control.

INFLUENCE OF HAIRINESS ON PROCESSING.

In this work, which is being carried out in collaboration with Dr. P. R. McMahon, it is intended to compare the processing properties of two lots of specially-selected crossbred wool differing only in a slight degree of hairiness. Tops have been made, and they are now ageing prior to the spinning, weaving, &c. The New Zealand Wool Council made a grant to the Association for the financing of this investigation.

OTHER ACTIVITIES.

A large variety of problems has been handled in the laboratory in addition to those relating to unshrinkable treatments, which have been the greatest in number. Others of major importance have related to stains and dyeing and many of the type necessitating extraction tests for grease, oil, and soap residues. Several fabric faults of a physical nature and a number of samples for analysis of products used by the industry have been submitted.

In addition to the quarterly bulletin which is sent to all members, a bi-monthly report giving details of the work handled by the Association during the preceding period is now circulated. Members are invited to ask for further information on any problem reported in which they are specially interested. In this way the industry is kept in very close touch with the work being done by the Association.

All members have been visited at least once during the year. One committee meeting has been held, and a report of research activities was discussed at the annual meeting of the Woollen-mill Owners' Association.

RESEARCH WORK AT AGRICULTURAL COLLEGES.

CANTERBURY AGRICULTURAL COLLEGE.

WOOL METROLOGY LABORATORY.

Dr. P. R. McMAHON.

Measurement and Grading Techniques.

Further studies have been made of the repeatability of subjective methods of wool judgment, as used in animal selection and in wool-classing. Statistical analyses have shown that for count, character, and staple length, judgments made by any one observer are satisfactorily consistent, although it is difficult to eliminate personal equations with different observers when seeking fine discrimination.

Environmental Studies.

In extending work reported last year on non-genetic effects on wool growth, some five hundred Corriedale sheep of the Kirwee Experimental Farm flock have been examined for fleece characterization. Differences have been shown to be associated with the various nutritional treatments, and by courtesy of the Department of Agriculture samples have been collected for determination of clean scoured yield. As the nutritional status of these sheep is accurately known, it is hoped that this co-operation will permit detailed examination of points raised on an extensive scale using the survey technique.

Wool Survey.—Using rapid visual techniques and a simple weighing-apparatus, data on a further twenty-seven thousand fleeces have been collected during the last season in about twenty-five different localities spread over Hawke's Bay, Taihape, Manawatu, and Canterbury. Briefly, the main aim of this survey is to determine which counts and types of wool give the most efficient wool-production, as judged by high fleece weights and high gradings for character, on different environments. It is already evident that the tentative conclusions reached last year will be confirmed and extended. Results for wool character, for instance, in the different count and type groups appear to be following the general trends outlined for gross fleece weight. Particularly important is the mounting evidence that a number of flock-owners on more productive North Island areas are decreasing their average wool-production appreciably by growing a high proportion of fleeces finer than 48's count; nevertheless, counts of 44's and stronger, and Romney wools tending towards the Leicester, only give high fleece weights when environmental conditions are good. Similarly, under some Canterbury conditions no increase in weight was found with wools stronger than fine Romney (43's to 50's count), while in a Corriedale flock the maximum weight was found with 54's. Finally, on high-country stations in Canterbury with half-bred sheep only the very fine counts seem to give fleece weights which are appreciably lower than the flock average, but here no final conclusions can be drawn until the results of scouring tests for the different counts are available. Results for Canterbury are put forward merely in illustration and with reserve, because possible effects of strain differences cannot be evaluated over the small number of flocks examined.