

Attention has already been given to the production of meat-meals from the materials which previously were converted into fertilizers. There certainly appears to be a great future for the production of such materials, and large-scale tests are already proceeding at Lincoln College and elsewhere on the value of meat-meals for rations of pigs, &c. In addition, fundamental tests are being carried out at Otago University by Professor J. Malcolm on the food values of meat-meals produced by different methods, such as wet and dry rendering. It is hoped that valuable information of immediate application to the industry will be obtained overseas by the Department's technical liaison officer.

During the past year a new canning process has been put into operation in five works. This is known as the sodium-nitrite hot-pickle process, and its application has resulted in a very great annual saving to the industry. The quality of the canned meat produced has been improved, while the process itself has been shortened and simplified. In addition, meat-extracts which hitherto have been waste products are now recoverable.

Processing of Hides and Pelts.

As a result of the general survey made by the Department's Technical Chemist on the processing of hides and pelts, a report was forwarded to some of the largest users of these products in the United States of America and the United Kingdom. In answer to this report valuable criticism and information on the quality and general deficiency in processing of our hides and pelts has been received. It is hoped that by this interchange of ideas on the part of producers and users, useful results will be obtained and the value of the product increased. An increase in price of only 3s. per dozen pelts for improved quality, which appears well within practical realization, will give an increased revenue of about £100,000 for the whole of New Zealand export of this commodity.

Leather Research.

Advisory Committee: Messrs. J. E. Astley, A. E. Lawry, D. Phillips, A. M. Wright, and Dr. J. S. Maclaurin.

A co-operative Leather Research Association has been formed by the majority of the tanners in the Dominion. The industry will subscribe £500 per annum, which will be subsidized to the extent of £500 by the Government. A Research Chemist is now being advertised for, and as soon as he is appointed general organization of the research will be made. Many users of leather in New Zealand claim that the locally-produced article is inferior to that imported from overseas. There is no doubt that there exists a long-standing prejudice against the local product. It is hoped by means of actual practical tests that the foundation, or otherwise, of this prejudice will be proved. In view of the fact that there is in the Dominion an excellent source of raw materials, there would appear to be every reason why the industry, with technical assistance, should prosper and expand.

Immediate attention will be given to chemical and physical tests on New Zealand sole-leather. A special machine which has been devised by the American Bureau of Standards for testing the wearing-qualities of sole-leather has been constructed locally. By carrying out such tests comparison with the imported leathers can be made and information will be obtained which will facilitate the production of the highest possible standard of leather. The local tanners are handicapped by having to import their tanning-materials, and inquiries are now being made as to the possibility of extending the cultivation of wattle-bark and other tanning-materials in the Dominion.

STANDARDIZATION.

(1) *Weights and Measures.*—Some preliminary work has been carried out by the Department's Physicist, in conjunction with the officers of the Labour Department, on the overhaul and testing-out of the balances which will be used for the primary comparisons when the new set of standard weights (at present being verified by the Board of Trade in London) arrive in New Zealand. The Labour Department has provided new and much-improved accommodation for this work.

(2) *Electrical Standards.*—In conjunction with representatives from the Public Works, the Post and Telegraph, and Railway Departments respectively, a general scheme has been formulated for the establishment of a central electrical standardizing laboratory. While the various Departments are each interested in working standards and instruments for measurement, the maintenance of the ultimate electrical standards and the primary comparisons involves highly specialized work, which could be most conveniently and economically rendered by a central laboratory.

The question of electrical tests in connection with standard specifications, particularly in relation to cable-testing, still is receiving consideration.

It is felt that there is great scope for important and useful work along these lines.

BUILDING-STONES.

Under the direction of Dr. P. Marshall, Petrologist, investigations have been continued into the nature and qualities of the building-stone resources of the Dominion. An interim report dealing with the large number of specimens already tested has been prepared, and at present is awaiting publication.

A notable discovery of deposits of vitric tuff which occur in considerable quantities in the upper basin of the Waikato has been made. This stone appears to possess qualities which indicate that it will prove very valuable as a readily worked building-stone.

Another important report concerning the beach-gravels of New Zealand has also been prepared, while the survey of the gravel resources of the Dominion is still in progress.