

chemists of the Imperial Institute. It will thus be possible to warn importers of any shipments that do not comply with the manufacturers' guarantee, and so allow of adjustments being made before the fertilizer is placed on the New Zealand market. The scheme, which is now in operation, has received the unanimous approval of importers, whose co-operation is necessary to ensure that all shipments are sampled.

Several instances of technical breaches of the Fertilizers Act (failure to register or to supply invoice certificates) have come under notice, and the vendors concerned have been warned.

The registration of vendors of fertilizers under the Fertilizers Act has been dealt with as in previous years. The statistics concerning the importation of fertilizers into New Zealand were compiled and published in the *Journal* as usual. A fertilizer-mixing chart, with notes, was prepared and published in the *Journal* for September, 1926. The chart is also issued as a departmental leaflet.

REPUTED FERTILIZERS AND PHOSPHATE ROCKS.

None of the sixteen samples of reputed fertilizers or phosphate deposits was found to be of any commercial value.

A sample of the product of the Wellington City Corporation's house-refuse masticator was analysed for the State Forest Service. The sample, after drying, contained over 50 per cent. of organic matter, but almost negligible amounts of nitrogen, potash, and phosphates.

A reported discovery of highly phosphatic limestone in the Piopio district was fully investigated, samples being taken by the Director of the Geological Survey and analysed in this laboratory. The deposits proved to be remarkably pure limestone, containing less than 0.1 per cent. of phosphate, but 98 to 99 per cent. carbonate of lime.

LIME AND LIMESTONE.

Over one hundred samples of lime and limestone were received during the year, including several of exceptional purity, and also some from deposits of soft carbonate of lime that could be applied to the land without previous grinding. A number of samples of commercial ground limestone were submitted for examination. Generally the fineness of grinding was quite satisfactory, but there was a wide variation in the quality of the stone treated, which ranged from 74 to over 90 per cent. carbonate of lime.

INVESTIGATION OF WHEAT AND ITS PRODUCTS.

Twenty-five samples of New-Zealand-grown wheat were received, but owing to pressure of other work no experimental milling has been possible during the past autumn. It is intended to recommence this work shortly. At the instance of the Department of Industries and Commerce it is also intended to collect and examine samples of bran and pollard produced in the Dominion, with a view to establishing standards of quality for these by-products of the flour-milling industry.

TOXICOLOGICAL.

Seventeen specimens of organs and ingesta from domestic animals suspected of having been poisoned were examined and reported on. This work is only undertaken in connection with cases investigated by officers of the Live-stock Division, and it is expected that specimens sent in shall be adequate in quantity and of a nature suitable for examination for suspected poisonous substances. Unfortunately these conditions frequently are not complied with, making it difficult, and often impossible, to supply more than a negative report on the material examined. Instructions for taking and forwarding specimens were published in the *Journal*, Vol. 8, page 142, which should be referred to by officers concerned.

MORTALITY IN LAMBS IN CENTRAL OTAGO.

In collaboration with the Live-stock Division, the mortality in lambs in Central Otago, due to renal congestion, or "pulpy kidney," was investigated. Samples of soil, pasture, and ewes' milk were obtained and analysed. An interim report on the investigation (which it is proposed to continue next spring, when it is usual for the mortality to occur) was published in the *Journal* for April, 1927.

WORK FOR THE DEPARTMENTAL DIVISIONS.

For the Live-stock Division the periodical examination of cattle-dips from Auckland and Taranaki districts has been continued, some 200 samples having been submitted from the public dips in these districts. The provision of material for use of officers in making dip-side tests of the strength of dipping-baths has also been continued. Complaints having been made by woollen-manufacturers that preparations were in use for branding which were not removable by the usual scouring processes, samples of the branding-fluids on the market and of branded wool were submitted for examination. Several of the wool-samples contained coal-tar, but it was not found that this substance was an ingredient of any of the commercial fluids examined. Other samples of wool were found to contain thick masses of pigment that could only be removed by prolonged scouring or by a brief preliminary treatment with a suitable solvent. In such cases it would appear that the trouble complained of is the result of failure to keep the branding-fluid stirred while in use, resulting in some of the fleeces receiving a heavy brand of thick pigment from the bottom of the can. The investigation is being continued.