

Dunedin: The total number of samples submitted was 924, of which 408 were from Dunedin City and suburbs and the remaining 516 from the country districts of Otago and from Southland. The sampling for special bacteriological testing has interfered seriously with proper sampling for chemical examination. Now that it has been shown that the reductase test gives more uniform and reliable results than bacteriological counts, more samples are being taken for the former test. The number of samples taken in Dunedin City and suburbs could with advantage be increased to about 1,500 per year. Of the Dunedin samples, 7 were deficient in fat, 6 were stale, and 19 were slightly below the standard in solids other than fat but did not contain added water; of the samples from the country districts, 6 were deficient in fat, 1 contained added water, and 16 were slightly below the standard for solids other than fat but did not contain added water. Attention has been drawn above to the question of poor-quality milk not containing added water. It is significant that in the Wellington District, where a large number of milk-samples have been examined over a long period, very few samples received are naturally poor milk.

Reductase Test.—It is pleasing to note that the Minister of Health, Great Britain, published during 1935 a report on "The Bacteriological Grading of Milk," in which it is stated that the reductase test is the most satisfactory method for controlling the bacteriological quality of milk-supplies.

The experience of this Laboratory, extending over twenty years, is that the test is of very great value in checking the sale of stale milk. There is no doubt that its use has in a large measure contributed to the improvement which has taken place in the bacteriological quality of milk sold for town supply in New Zealand.

The Ministry of Health report, which is based on a prolonged investigation, confirms the opinion held in the Laboratory for many years and shows that in addition to the advantages of low cost and simplicity the reductase test gives for milk more reliable results than the somewhat complicated and expensive method of bacteriological counting by plating out.

Water.—A total of 393 samples, mostly from existing and projected town supplies, were analysed in the four laboratories.

A special investigation is being carried out on the Waitara water-supply by the Medical Officer of Health, New Plymouth, and it is expected that the resulting data will be of value in connection with the control of the purity of Taranaki water-supplies.

Miscellaneous.—A large number of various articles used as food and drink were examined. They included apricots, bacon, baking-powder, beer, blanc-mange powder, bread, bread improvers, cake, cheese, chocolate, coconut, corned meat, coffee, coffee and chicory essence, cream, cream of tartar substitutes, ice cream, icing-sugar, iodized salt, olive oil, split peas, pepper, potatoes, rennet, teas, tinned fish, tripe, vinegar, and whole-meal bread.

A sample labelled "Ships' Coffee" was found to be coffee and chicory.

Of 260 butter samples examined in the main Laboratory and the three branches, 8 contained water in excess of the maximum allowed (16 per cent.). No boric acid was found in any of the samples.

A number of samples of enamelware examined for antimony and other poisonous metals were found to be free from these metals. However, in some cases it was found that the enamel was of inferior quality in that it was somewhat easily attacked by weak acid solutions and would not be durable in use.

Samples of earthenware ovenware were examined for the presence of lead in the glazes, but in no cases were significant amounts of lead found.

One sample of the ware was remarkable in that treatment with dilute acid at cooking temperatures dissolved considerable amounts of zinc from the glaze. Dilute hydrochloric acid (normal) kept at the temperature of the water bath for thirty minutes dissolved zinc equivalent to 0.4 gm. of the metal per 100 mil. acid.

Zinc oxide is used in glazes to give a matt effect, which was apparent in the sample. Although zinc is not as toxic as lead, it is evident that in this glaze its solubility is such that acid foods cooked in the dish would dissolve undesirable amounts of zinc.

An extensive investigation was made of all the available brands of iodized salt on the market, in regard to the proportions and distribution of iodide in the salt and the rate of loss of iodides under various conditions of storage. It was found that the iodide content of iodized salt sold in 5 lb. bags is as satisfactory as that in tins or cartons.

The investigation will be completed at an early date, and it may then be possible to suggest a form of container which will prevent loss of iodide from the salt on keeping.

A variety of drugs were examined to ascertain if they complied with the requirements of the regulations under the Sale of Food and Drugs Act. They included extract of cascara, talcum powders, camphorated oil, ointments, tinctures, oil of turpentine, aspirin tablets, castor-oil, fruit saline, lime-water, liquid paraffin, lysol, olive-oil, corn cure, and dextrose. They were found, with few exceptions, to be of satisfactory quality.

A number of samples of air taken in connection with the ventilation of workrooms and theatres were examined during the year.

MINES DEPARTMENT.

The Dominion Laboratory has, as in past years, carried out the testing and analysis of mineral samples and mine gases. Prospectors' samples from all parts of the Dominion have been examined for gold and silver and occasionally for other metals. Among the samples of mine airs forwarded by the inspection staff of the Mines Department, a number were taken for the purpose of checking the readings given by a McLuckie gas-indicator.