

ANALYTICAL TESTS

pH Testing.—Some 4,841 pH tests were made during the year, which was practically the same as the previous year's total of 4,867. The number of tests carried out at the various grading stores were: Auckland, 2,772; Gisborne, 61; Napier, 35; New Plymouth, 788; Wanganui, 239; Wellington, 890; Dunedin, 38; Bluff, 18. The results of these tests indicate that there is still a tendency toward over-neutralization of some butters.

Bacteriological and Chemical.—The number of samples from the various grading stores submitted to chemical and bacteriological examination was as follows: Auckland, 2,679; Gisborne, 169; Napier, 6; New Plymouth, 788; Wanganui, 209; Wellington, 808; making a total of 4,659, compared with 4,709 for the previous year. In keeping with past procedure, all samples from ports other than Auckland were forwarded to the Division's Dairy Laboratory at Wallaceville for examination.

Moisture.—Some 113,648 churnings of butter were tested for moisture, and of these only 0.28 per cent. was found to exceed the legal limit of 16 per cent. Churnings tested during the previous year totalled 112,265, of which 0.35 per cent. was found to be over-moisture. The average moisture content of New Zealand butter graded for export during the past season is estimated to have been 15.692 per cent. An interesting and gratifying feature is that the skill of the buttermakers and the efficiency of the appliances used are such that a standard so uniform and so closely related to the maximum permitted can be maintained.

Salt.—Samples of butter tested for salt totalled 113,365, of which only 0.08 per cent. failed to comply with the regulations. For the previous year 111,613 samples were tested, 0.06 per cent. being found to infringe the regulations.

DAIRY LABORATORY, WALLACEVILLE

During the past year the laboratory work was carried on with some difficulty because of staff changes and a scarcity of suitable replacements. The total number of samples dealt with was 3,023, of which 2,717 were bacteriological and 306 chemical. The figures for the previous year were 3,463 bacteriological and 897 chemical, a total of 4,360.

Curd Storage Trials.—Experiments on the preservation of buttermilk curd for pig-feeding, commenced at Featherston in 1944, were completed at the beginning of the period under review. The storage trials were quite successful, and the results published.

Chemical.—The principal chemical work carried out has been the examination of samples of butter and cream for their copper and iron content. Results show that a considerable amount of metallic contamination is present in certain brands of butter, especially whey butter, so there is need to do more of this work.

A few factory and farm water-supplies have been chemically examined and advice regarding treatment given where necessary.

Bacteriological.—The principal bacteriological work has continued to be the examination of butter samples, which have been sent regularly from the dairy-produce grading-stores. Although this work has proved of great value to the Dairy Instructors in effecting improvements in the cleaning of butter-factory equipment, the fact that at least three weeks usually elapses between the churning date and the completion of the examinations is a disadvantage. To meet this position, some benefit might be obtained if the examinations could be supplemented with a simple test done in the factories on cream and buttermilk samples taken at the time of churning. A comparatively small number of trials have shown that the resazurin test offers possibilities for this purpose, but further investigation is required. A few samples of dairy-factory water have been submitted to bacteriological examination.