Milk-grading.

The improvement in butter quality consequent on the general adoption of cream-grading, with compulsory differential prices for the various grades, made the grading of milk appear to be a wise move in the direction of improvement in cheese quality. The general consensus of opinion among cheese producers was such that milk-grading was given a trial, without compulsory differential payments, commencing during March, 1932, and continuing until May, 1933. It was then deemed wise to adopt the principle of compulsory differential payments for two compulsory grades, with the option for dairy companies to use a further higher grade and a further differential in price.

At a number of cheese-factories there was an improvement in the quality of the milk-supply as the result of grading without a penalty by way of payment for the lower grade. Some suppliers who had a natural pride in doing things right responded to the influence of such grading very satisfactorily indeed. Others can be moved only by differential payments, and experience has proved the necessity for making the differential payments for the various grades compulsory. It is expected that the effects of this movement will be evidenced in some improvement in cheese qulaity.

Farm Dairy Instruction.

The more evidence the Division obtains the more is realized the urgent need for the work of farm dairy instruction to become Dominion-wide in its application, in order to raise the quality of the milk and cream to the standard desired. A notable feature of the work carried out by the Farm Dairy Instructors has been the great improvement shown in the quality of the cream from suppliers who previously forwarded a low-quality article. It is evident, therefore, that the nationalization of this service would be an effective step towards the delivery of a greatly improved milk-supply.

During the year thirty-four farm dairy instructors, which is one in excess of the previous year, were employed by seventy-seven dairy companies with approximately 31,000 suppliers, and these companies forwarded 72,854 tons butter and 41,764 tons cheese for grading. As there are approximately 70,000 suppliers to dairy companies it will be seen that approximately 39,000 receive little or no instruction in the care and handling of their supplies.

Inspection of Milking-machines on Installation.

Special attention is given to the inspection of new and renovated milking-plants installed during the year, this duly being carried out by the Farm Dairy Instructors and elsewhere by the butter and cheese instructors. The majority of the milking-machine firms are keen to make these installations in conformity with the regulations, and in cases where structional alterations are required no great difficulty has been experienced in having these carried out. During the year notifications of 2,042 installations were received by the Division.

Check-testing Suppliers Milk and Cream Samples at Dairy Factories.

Since the introduction of check-testing at dairy factories of suppliers' milk and cream samples for butterfat content, the methods of conducting the tests have shown a great improvement, both in the application of the tests and in the testing-room equipment. The testing officers in most of the factories are reliable men, keenly interested in their work, which is now performed in a more methodical and accurate manner than was practised prior to the commencement of check-testing by the Division. During the year 486 check-tests were made, a pleasing feature of the work being the small variation found between the factory results and the check-tests.

Dairy Laboratory Work.

The work carried out at the Division's Laboratory at Wallaceville has been continued under the direction of Dr. G. M. Moir, Dairy Chemist. During the year investigations of discoloured cheese have been continued whenever possible. Examinations of cheese showing bleached and muddy defects have provided further examples of the damage which is likely to arise when mould grows freely in trier holes or cracked rinds. Another defect, mottled colour or seaminess in green cheese, has also been studied. By keeping affected cheeses until they matured somewhat the defect was found to be still present. Experienced cheesemakers have frequently observed that this trouble develops in green cheese made from slimy milk, so that the detection and elimination of such milk by means of the curd-test would seem to provide the best remedy. Experiments have been undertaken with a view to reducing the incidence of cracked rinds. In this connection an effort has been made to encourage factory-managers to take more interest in the maintenance of correct temperatures and humidities in cheese-curing rooms by means of regular observance of wet and dry bulb temperatures. A good deal of time has been devoted to various aspects of milk-grading and suitable tests therefor. Ample scientific evidence is available to justify the use of two tests, one the curd test to detect milk excessively contaminated with bad types, the other the methylene blue test (or, alternatively, the microscopic count) to reveal milks with excessive number of germs.

With the co-operation of Dairy Instructors a considerable number of starters in use in cheese factories have been forwarded for routine laboratory examination. The results reveal the fact that the purity of many starters leaves a great deal to be desired. If such examinations could be made more frequently no doubt the improvement already effected could be further extended, leading in turn to better cheese-quality. In addition to carrying out a considerable number of routine examinations for various purposes a little time has been devoted to examinations of the sanitary conditions in a few cheese-factories; also those in a butter-factory where mould infection of unsalted butter had given trouble. Apart from specific causes of infection which were investigated, evidence was obtained showing the need for more thorough sterilization of factory plant—both butter and cheese.