

THE object of grading milk and cream is twofold. It serves to keep the supplier advised regarding the quality of his produce, thereby giving him an opportunity to correct any defect, and provides the means of inflicting the penalty without which any regulation is impotent.

The deduction from the butterfat payment for second-grade milk and cream cannot be regarded as an indication of the difference in value between those two qualities. For instance, the inclusion of 20lb of garlic-flavoured cream in a churning of 20 boxes of butter has been known to reduce the quality to second-grade, which, on the differential of $\frac{1}{4}$ d per lb allowed at that time, amounted to 46s 8d. The deduction of the 8lb of butterfat which the cream contained amounted to only 8d.

The loss in this instance was easily calculated, but there are many cases in which the secondary qualities are mixed with the higher-grade cream, and although the butter made may not be poor enough for second-grade, there is a general reduction in quality which is not compensated by the small amount deducted from the second-grade butterfat. There may be, in addition, an inherent unsoundness in the butter which is not noticeable at grading, and as an instance of this we have the experience in connection with the manufacture of unsalted butter, for which purpose only cream of the highest quality can be used.

Milk for cheese-making is, generally speaking, not graded until after the manufacturing process is well advanced, so that segregation in this case is not possible.

Start of Grading

Cream grading was undertaken by individual dairy companies on a volun-

Milk and Cream Grading

tary basis in the first instance, and the experience so gained led to the demand from the industry for both milk and cream grading. Cream grading was made compulsory in 1926, but milk grading was not started until 1931.

In both instances the grader is required to hold a certificate which is issued by the Director of the Dairy

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Division after the applicant has been examined and passed as competent by an instructor. This certificate may be cancelled if for any reason the Director is of the opinion that the grader is no longer a fit and proper person to be entrusted with this responsible work.

In the case of milk for cheese-making, two grades (first and second) are compulsory and finest grade is optional, but milk for butter-making must be graded into finest, first, and second grades.

The standard of grading for milk for cheese-making is that, if manufactured separately without pasteurisation, it would make cheese of the quality assigned to it.

The standard for milk and cream for butter-making is that, if manufactured separately by the usual approved methods, it would make butter of the quality assigned to it.

Method of Grading

The method of grading varies according to the use which is to be made of the milk. Thus, milk for cheese-making must be based jointly on the curd test, and either the reductase or the microscopic tests. Milk for butter-making, which includes milk supplied to a casein station, a dried milk or a condensing factory, must be graded by (a) the curd test, or (b) the reductase test combined with the senses test; (c) the microscopic test together with the senses test; (d) the curd test together with the reductase or the microscopic test.

It will be noted that the provisions are wide enough to cover all the methods which have been used from time to time, but in actual practice it can be accepted that milk for cheese-making is graded by the curd test plus the reductase test, while milk for butter-making is graded by the reductase test plus the senses test. The senses test in this case means that milk which has not decolourised in the time fixed for finest or first-grade may, after those periods have elapsed, be graded down to first or even second-grade by the sense of smell.

There is a further provision that milk which is second-grade by the sense of smell or taste—sour or turnipy milk, for instance—or milk which is shown to be dirty by the sediment test, which is a test for actual dirt, may be put

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