

second-grade cream, but this narrow range of value has not been the means of stimulating a greater degree of care on the part of the owners. A number of the factories have therefore increased this difference in price to 1d. per pound of butter-fat. A further disparity in price would seem advisable, but the dairy companies are not yet willing to take such a step.

The Instructors in buttermaking have advocated the grading of cream on the basis of awarding points according to quality, and this method has already been attended with a measure of success, more especially where a premium has been paid for the cream scoring 92 points and over, with a slightly lower rate for ordinary first-grade, and a still lower rate for second-grade cream.

While there is no doubt at all about the beneficial effect of cream-grading generally, it remains to be seen whether the pointing system can be successfully extended. During the year several cream-grading conferences were held and attended by a large number of factory-managers along with Instructors of the Daily Division, the object being to gain further experience, and also ensure a greater degree of uniformity in the work.

Personally, I am convinced that cream-grading on approved lines, and the payment of a sufficiently low price for poor quality, together with a proper system of instruction in the handling of cream on the farms, would be the means of greatly improving the quality of creamery butter made in New Zealand. The sooner such a system can be introduced the better it will be for all concerned.

#### TESTING OF MILK AND CREAM.

The testing of milk and cream samples has received the usual attention by Instructors of the Division, and the efforts thus made to minimize any dissatisfaction amongst suppliers with the testing as carried on by factory-managers have apparently been successful. The reports submitted by Instructors who have attended to the checking of this work at the factories go to show that more care is taken to prevent inaccurate testing than formerly. All glassware and other appliances used at the factories were generally found to be of the best obtainable, and in no case were any serious irregularities detected.

Acting on a suggestion from this office, the directors of one of the largest dairy companies in Taranaki recently decided to hand over the whole of the testing of suppliers' composite milk-samples to an officer of the Division, and as one of the staff was already engaged in the testing of dairy herds on behalf of the company's milk-suppliers it was agreed that he should take up this additional duty. Inquiries have been received from other dairy companies regarding the appointment of official milk-testers, and so long as the parties concerned are willing to meet the necessary expenditure, including that of the salary of such an officer (within certain limits), it is considered that appointments of this nature should be encouraged.

#### DAIRY INSTRUCTION.

Those engaged in the manufacture of dairy-produce have taken full advantage of the assistance rendered by the Department in employing a permanent staff of Dairy Instructors, whose help and advice is available when required. Following the usual custom, these officers have spent the major portion of their time at the cheese and butter factories. The success which has attended the instruction imparted to those in need of it has been in a large measure due to the co-operation of the men in charge of the factories and the officers concerned. When it was found that the quality of the produce being manufactured was below the average, one or more days were spent in locating the cause of the defect, and then giving a demonstration as to the manner in which the fault could be overcome. On many occasions it was found only necessary for the officer to call at the factories and to offer suggestions to alter the process of manufacture, which when adopted gave the desired result.

Apart from the ordinary instruction in the manufacture of butter and cheese, a great deal of time was occupied in dealing with the numerous branches of dairy-factory work, including the arrangement, control, and running of dairy machinery. When called upon, or where it was considered advisable, the Instructors conferred with the chairman and directors of dairy companies to discuss important matters in relation to the industry. As a general rule, the advice and recommendations of the Instructors were accepted. It is worthy of note that many thousands of pounds are spent annually by dairy companies for the purpose of giving effect to the recommendations of the Instructors regarding improvements and additions to dairy-factory buildings and their equipment. In this way the majority of these dairy factories in the Dominion are kept more up to date and in a better sanitary condition than would otherwise be the case.

It is desired to mention that only a very limited amount of instruction in respect to the care of milk and cream and the cleaning of milking-machine and other dairy utensils could be undertaken amongst the farmers, the sole reason of this being the small number of Instructors employed. More work of this nature is urgently needed.

#### TESTING OF DAIRY COWS.

The certificate-of-record system of testing purebred cows has evidenced an extension this year that is somewhat surprising in view of the scarcity of labour and the fact that the Armistice had not been signed when most of the entries were received. The number of breeders co-operating with the Division in this work represents an increase of one-third over that of the preceding year. The prospects for the ensuing season warrant the assumption that a further increase will be evidenced. This work is enabling dairy-farmers to select bulls more intelligently, and cannot fail to have a direct bearing on the production of the average dairy cow in New Zealand. Its influence must be towards an increased production, which is so essential to this Dominion at the present juncture.