

In addition to routine work, these scientists gave considerable time and attention to the questions of discoloration in cheese, and the making of comparative tests of milks by various methods to determine the most satisfactory method by which the grading of milk for cheesemaking might be undertaken. Mr. Morgan gave much valued help in connection with the assessing of the merits of various tests for grading milk for cheese-manufacture. His practical experience in the manufacture of cheese enabled him to appreciate the factors required of such a test. His blending of the scientific aspect with the practical materially aided the attainment of the final determination to use a curd test or a reductase-curd test as the general test in connection with the grading of milk at cheese-factories.

Considerable work had been previously carried out by Mr. Morgan on discoloration in cheese, more particularly coloured cheese. This work was continued, and with the collaboration of Dr. Moir further light has been thrown on certain aspects of the trouble. As the result of this work the Division has been enabled to send to dairy companies circular letters containing useful suggestions for preventive measures.

Dr. Moir joined the staff during the year, his appointment dating from the 31st August, 1931.

INSPECTION OF NEW ZEALAND DAIRY-PRODUCE IN BRITAIN.

Owing to the increased volume of dairy-produce being exported to Britain, it was arranged that an additional officer should assist Messrs. Wright and Taylor, and Mr. E. C. Wood, Dairy-produce Grader-in-Charge at Auckland, was selected and took up his duties in London in October last. This extra assistance has enabled a greatly increased quantity of butter and cheese to be examined and reported on. Numerous detailed reports on the quality of dairy companies' produce are received by each mail, and these are in turn forwarded to the companies concerned. Many other matters of value to the industry have also been reported on, and have been passed on for the guidance of the industry generally.

CERTIFICATE-OF-RECORD TESTING.

During 1931 the Dairy Division's Certificate-of-record testing system reached a peak in its progress. Practically all cows qualifying for certificate in that calendar year calved for commencement of test in 1930, when the effects of the gathering depression were as yet scarcely in evidence. The number of cows placed under test showed a decided increase, while average production was also higher than for 1930. In addition, 1931 was the first year of operation of the C.O.R. 305-day test. During the year 630 first-class certificates were issued to cows qualifying under the rules for the yearly test, and 107 under those for the 305-day division, a total of 737, or an increase of 94 certificates over the preceding twelvemonth. Thirty-five second-class certificates were issued, being one more than for 1930. The average butterfat yield represented by the 630 C.O.R. yearly certificates was 495.17 lb., as compared with 474.02 lb. for 1930. From the point of view of average yield, however, it should be stated that commencing with 1931 the minimum butterfat requirement for certificate was increased by 35 lb., which would eliminate some of the lower producers and react favourably on the average. The average production of the 107 cows which were granted certificates in the 305-day division was 421.29 lb. butterfat. The minimum butterfat requirements for this division are 25 lb. less than for the full-year class. The foregoing figures relate to the calendar year, which is the statistical period adopted for this method of testing.

GOVERNMENT OFFICIAL HERD-TESTING.

The last Official Herd-testing year ended on 30th September, 1931, which was the fourth year of operation. During the twelve months ended on that date 175 C.O.R. breeders availed themselves of the Official Herd-test service to the extent of testing 2,236 cows. These are the highest figures yet reached, and represent an increase of thirty breeders and 770 cows over the preceding year. Classified on the basis of all cows in milk 180 days or more, the average yield of the cows under this test for 1930-31 works out at 298.17 lb. butterfat from 6,617.4 lb. milk, in an average lactation period of 278 days, some 2,008 cows qualifying for inclusion.

ORDINARY HERD-TESTING.

The returns for 1930-31, on the basis of all cows tested twice or more, show a total of 271,404 cows tested in the Dominion, as compared with 283,731 for the preceding season. Of the last year's total 88.8 per cent., or 241,155, of the cows were tested under the Group system, while of the remainder 28,914 cows were tested under the Association system, and 1,335 cows tested by dairy companies on behalf of their suppliers. The Government again granted a subsidy to herd-testing, the amount for 1930-31 being £8,000. A portion of this was paid to organizations to meet establishment costs for new groups, a portion to established organizations to meet the cost of upkeep and of additional plant, while the balance permitted a payment to testing dairy-herd owners of 4d. per cow for group testing and 2d. per cow for association testing.

In carrying out this general herd-testing the Division has co-operated with the Herd-testing Federation. The actual allocation of the subsidy is directed by the Central Executive, upon which the Federation, the Dairy Board, Massey College, and the Department are all represented.

APPRECIATION.

The volume of dairy-produce now being manufactured has entailed increasing work on all members of the staff, and the good and loyal service given has been a very pleasing feature, and is much appreciated. The Division is also pleased to record its appreciation of the helpful assistance rendered during the year by the Chief Chemist, State Forest Service, Dairy Produce Board, the various freezing companies handling dairy-produce, the firms handling milking-machines, and the cattle breeders' associations.