

personal contact between the officer and the farmer that is essential to efficient service by way of advice and instruction. The districts controlled by individual officers are extremely large; and while one or two additional men have been appointed recently, the appointment of more men is most desirable to allow of even a higher degree of efficiency being obtained.

EXPERIMENTAL FARMS AND AREAS.

The Division continues to control the work on seven experimental and demonstration farms in various parts of the Dominion. Some of the work is of an intensive technical nature and is carried on in co-operation with the specialist officers engaged in grassland research work. Other work is relative to experiments and demonstrations on a scale and of such a nature that a co-operative trial with a farmer would not be possible. It is in work of this description that these farms are of a real and definite value.

RUAKURA FARM OF INSTRUCTION.

Weather conditions for the year ended 31st March, 1936, were practically the reverse of those experienced during the previous year. The winter was fairly mild, frost not being too severe and rain not excessive. The spring was, however, very late, but when grass growth commenced it came away with a tremendous rush, and, favoured by intermittent warm and showery weather, feed was produced in such vast quantities that it was found impossible to control it.

The season was a most trying one so far as the hay harvest was concerned. Eighty-six and a half acres of moderate quality hay was stacked, while 18½ acres, although cut and partly cured, finally had to be destroyed by fire on account of its having been completely spoiled by the continuous rain. An area of 50 acres of grass was converted into silage, and altogether 110 tons of hay and 265 tons of silage were made.

Following the practice adopted during the previous two years, no annual sale of surplus stock was held on Ruakura, but all such stock was sold at the Combined Breeders' Sale held at Claudelands during September. This method of sale has the effect of lessening the expenses of selling.

At the sale thirty-four yearling bulls were disposed of at an average price of £15 17s. 6d. The demand for Shorthorn and Ayrshire cattle was particularly keen, but that for Jerseys was much slower. A much keener demand than for some time past set in for Ruakura Berkshires. Tamworths also sold fairly well, but there has been no demand for Large Whites. Prices realized for pedigree pigs during the year have averaged as follows: Berkshire, £5 0s. 2d.; Tamworth, £4 15s. 7d.; Large White, £4 0s. 8d.

The maximum number of cows in milk during the season was 132, and the total butterfat produced amounted to 25,024 lb. The average price per pound of butterfat received in 1935-36 showed an increase on the price for the previous season, the actual amounts being 1935-36, 11-8d. per lb.; 1934-35, 9-03d. per lb.

The position with regard to the flock sheep at Ruakura continues satisfactory.

Taking everything into consideration, the Ruakura Farm of Instruction had a very successful year.

Pig-feeding Experiments.—Pig-feeding experiments were conducted at Ruakura to measure usefulness of good grass in fattening baconers and to get some preliminary information on maize feeding on carcass quality. The experiments were controlled by a committee comprising members of the Live-stock and Fields Division—viz., District Superintendent, Fields Superintendent, Farm Manager, and Veterinarian and Fields Instructor at Hamilton. The results of the trials were that "sty" fed pigs had a mean daily carcass gain of 0.89 lb., and "cow pasture" grazed pigs 0.88 lb. The sty fed pigs required 560.7 gallons of milk per 100 lb. carcass increase, and the cow pasture fed pigs 564.5 gallons. Pigs fed on barley and maize finished too fat, whilst milk feeding gave first-class carcasses. Next season these trials are being repeated, and further work will be done relative to the place of maize in Auckland pig-feeding. Maize is used in the Bay of Plenty fairly extensively for the winter feeding of pigs, and apparently with excellent results.

Ruakura Farm Training College.—This institution, which has been in operation since 1923, was continued during the year, but unfortunately the attendance has been disappointing. Quite a good class of student has been forthcoming, and, taking everything into consideration, things at the college have run smoothly. It is thought the present course of eighteen months could, with advantage, be reduced to a straight-out one year's course. This matter is being looked into further at the present time, and the likelihood is that an alteration will be made during the 1936-37 year.

FIELD EXPERIMENTS.

The Division continues to carry out a comprehensive series of field experiments and demonstrations in co-operation with selected farmers, and during the year the number of co-operative experiments in hand increased from 771 to 902. These experiments relate to a great variety of subjects, such as variety trials with wheat and oats, manurial trials on various crops, the trying-out of numerous kinds of fertilizers and combinations of such fertilizers, and the like.

With the careful summarizing of the results of experiments valuable information continues to be procured, and this information is disseminated to farmers throughout the Dominion by means of the Department's *Journal* and the instructional staff.

Two outstanding points which have come to light as a result of the Division's experimental work have been with respect to the manuring of the wheat crop and the control of mottled heart in the swede crop.