

general average consumption of "Powerin" in ploughing was $1\frac{3}{4}$ gallons per acre. No land work other than ploughing was performed by the tractor, as it was considered that other cultivation could be more effectively done by team work in the relatively small paddocks under cultivation, the average being 15 acres. In addition to land work the following stationary work was performed by the tractor during the same period: Crushing feed (seconds of wheat, barley, oats, and peas), 9 days; chaff-cutting, 19 days; threshing cereals, 15 days; ensilage-cutting, $3\frac{1}{2}$ days; wood-cutting, 4 days. At certain periods the tractor was not working, the operator being engaged on team or other work. The cost of repairs during the year was £28.

Live-stock.—*Sheep*: The percentage of lambs was under the average—82 per cent. These were all fat-lamb crosses excepting forty-five Border Leicester studs. Of the cross lambs 817 went off as freezers, and seventy remained on hand. Five hundred ewes were mated again for fat-lamb production next season.

Cattle: The season was not at all favourable for good results with the dairy herd, but a satisfactory average production was realized, the average for cows finishing their lactation periods during the year being—thirty-six Friesians, 331 lb. butter-fat; eighteen Shorthorns, 227.4 lb. butter-fat. Six Friesian heifers averaged 341 lb. butter-fat. The eight best Friesian cows averaged 475 lb. butter-fat. A number of Friesians were shown in competition at Palmerston North Show, and collected all the prizes in the cow classes. The young bulls reserved for sale last year were all disposed of at prices ranging from sixty to fifteen guineas. The farm was fortunate this year in being able to secure the Friesian bull "Big Patch." This sire was bred at Longbeach, and is a fine type. The Shorthorn herd has not made much progress, but the young Shorthorn bulls have nevertheless met a keener demand than the Friesians.

By arrangement an exchange was effected with the Victorian Department of Agriculture of Weraroa Friesians for Werribee Red Polls—eleven heifers, nine cows, and two bulls of the latter breed being received at the farm in the beginning of March, 1917. It is hoped that these Red Polls during the coming season will sustain the high reputation which the breed has acquired as milkers in Victoria.

The stock on the farm is as follows: Cattle, 245; sheep, 800; horses, 23; pigs, 100.

Ruakura Farm of Instruction.

The scope of the work undertaken at this station has been annually increasing, and during the year just closed material developments in the direction of furthering agricultural education have taken place. Not a little work has been done in the continuation of the experiments in progress last year, and in connection with experiments inaugurated during the present year. In order to keep up with the ever-increasing demands made by the general public on this institution, development must take place in every branch of the farm, or failure to meet the demand must follow. The serious problem of the near future is how to meet the legitimate and growing call of the agricultural public without unduly increasing expenditure. There is the growing tendency to load the station with various kinds of public service not directly connected with the work of the farm proper, but which, rightly speaking, should be undertaken. A considerable amount of time has been given willingly—and without additional remuneration by the officers—in conducting classes for teachers, training-college students, high-school and technical-college boys, and public-school children, in addition to ordinary demonstrations and lectures delivered to learners and returned soldiers at present at Ruakura. There is now a notable movement for the extension of agricultural training by the Auckland Board of Education for its teachers and scholars, and it is undoubtedly true that this movement is a step in the right direction. Ruakura is now so far advanced in all its branches as to provide the necessary information and practical demonstrations immediately required by the Board for the training of its teachers. The marked success of the teachers' farm school recently held at Ruakura directly indicates the suitability of this station for that special purpose.

Farm Learners, &c.: Although available accommodation will not allow of more learners than ten, it must be remembered that each lad occupies a room for twelve months only. At the end of that period opportunity is granted for those taking a keen interest in their work and studies to fill a position on the farm, and all, without exception, have performed their duties efficiently and with credit to themselves. Under this system a greater number of lads are afforded the opportunity of taking the course than formerly. A gratifying feature is the increase in the number of students taking a course of instruction in the apiary section, with a view to ultimately engaging in the bee industry. The number totals eighteen, and of these six are returned soldiers. In addition, seven returned soldiers have received tuition in farm, dairy, and poultry work.

The Season: In many respects the season under review has been a phenomenal one. The climatic conditions which prevailed in this locality were anything but favourable from the dairy-farmers' standpoint. Dairying is now the main industry in the Waikato, and much of the season's success depends upon the weather. To find feed for stock throughout the wet weather was to every farmer a serious problem, and conditions did not alter until the middle of September. Cows in many dairy herds calved while in poor condition, consequently milk-yields were low to commence with; and on account of having to regain strength and vitality they were a long time in reaching their maximum production. Fortunately such conditions were not experienced at Ruakura, as ample provision had been made in the way of roots and hay, and stock was brought through winter in the very best of order.

Crops and Pastures.—The total area under cultivation is being gradually reduced and fields laid down in permanent or temporary pasture. The object of this is to increase the grazing-areas, reduce the sorrel areas, and at the same time allow for better cultivation over those fields in which crops are grown.