

Province, the average annual precipitation. A narrow coastal strip which includes Christchurch recorded a rainfall some 2 in. below the annual average. In North Otago the rainfall for the year was slightly more than in Canterbury.

*Pastures.*—The condition of the pastures generally is capable of great improvement. Large areas, quite 75 per cent. of the land returned as in English grasses, are completely run out, this applying equally to Canterbury and North Otago. Statistics show that for quite twenty-five years, in neither of these has the stock-carrying capacity of the pasture lands increased, although during that period there has been a considerable increase in the area under that head, and large properties have been cut up and considerable land-settlement effected. This condition of the pastures is mainly attributable to (1) The sowing of unsuitable mixtures of grasses; (2) not consolidating the seed-bed before sowing the seed, and not covering the seed sufficiently after sowing; (3) stocking when the first growth is only a few inches high, and continuing this process of eating off the growth when a few inches high at short intervals, thereby stunting the plant by not allowing the root portion to develop properly during the first year of its growth, which has a prejudicial effect on it afterwards; (4) the too common practice of sowing pasture grasses for catch-crops or annual and biennial pastures only, instead of sowing pasture grasses, clover, and deep-rooted forage plants which form more permanent pastures; (5) the exhausting of the humus in the soils by too frequent white crops being taken, also by the frequent open fallowing and working of the soil in dry periods; (6) the sowing of inferior seeds. Pastures at the close of the year under review in North Canterbury and mid-Canterbury are probably in better condition than usual, owing to a better distributed rainfall. In South Canterbury and North Otago they are not so good, through want of sufficient rain during March.

*Crops.*—Cereals: Wheat-growing generally has been successful, and in some cases the yields have been quite beyond expectations. Cases of yields up to 89 bushels per acre have been reported. North Otago wheat crops are very good. There was an absence of rust and smut, but the disease known as "take-all" did some damage in a restricted area; it is not considered, however, the total yield for the district was materially affected by this cause. Mr. R. Waters, of the Biological Laboratory, visited the affected districts and investigated the disease on the spot. The promptitude with which the Department handled this matter has been most favourably commented upon by growers. In regard to oats, the quality of the grain is good, but the yields are approximately 10 bushels per acre under last year's. Very little rust or smut was in evidence this season. Some damage was done to barley by caterpillars in the Ellesmere districts, but the barley crops on the whole have given a bountiful return. Reports of yields up to 93 bushels per acre have been published, and prices have been in the vicinity of 9s. per bushel. There is an apparent shortage of this cereal.

Root crops: In selected spots some fair turnip crops have been obtained, but generally throughout the district the returns are small, and in many cases the cost of growing turnips is not recouped by the amount of feed obtained. Swedes are badly blighted in most districts. Mangold crops are good this season, but most farmers find it an expensive crop to grow.

Forage crops: The returns from rape and kale have been disappointing. It is now admitted by most progressive farmers that the growing of rape or kale is anything but a paying proposition in Canterbury, where, owing to the climatic conditions only one passable crop in seven years is the average.

Potatoes: There appears to be a greatly increased area in potatoes this year. During a short spell of damp, warm weather in February blight made its appearance, but did not develop to any extent. Good yields are expected, but crops are late, and digging will not be general till the middle of May.

Lucerne: The past year has shown that the interest taken in this crop is an ever-increasing one. Many farmers have laid down areas in some cases up to 100 acres in extent. The unremunerative conditions of most Canterbury pastures, and the comparative failure of turnips and rape, have convinced many landholders that if the stock-carrying capacity is to be increased they must turn their attention to lucerne. Improper cultural methods have been responsible for many failures and partial failures during the year amongst would-be growers of lucerne. Investigation on an extensive scale was carried out during the past year in regard to many wrong and absurd ideas prevalent in regard to the growing of this plant. Matter is being prepared for publication dealing with these, accompanied by photographs.

*Advice on Agricultural Matters.*—The number of farmers and others calling at the office to seek advice has again shown a substantial increase. The past year has been a record one in the number of requests made both verbally and in writing for advice on matters appertaining to the various branches of agriculture. The work of attending to inquirers regarding lucerne-growing, and to the lucerne demonstration areas, has now become so heavy that it more than keeps one officer fully occupied. There have been many urgent requests to visit farms in various parts of the district to give practical advice on the spot. These requests have been attended to as far as time permitted, but there are at the end of the year a number of farms yet unvisited. It is not only amateur farmers who are seeking advice; many of the requests come from men who have been all their lives on the land, but who are impressed with the need of reform and the adoption of more up-to-date methods in the treatment of the soil, the growing of pastures and forage crops of a more reliable character, and the need of building up the humus-content of the soil. They are also struck with the lack of sufficiency of lime in most soils, and the indiscriminating use of artificial manures with all manner of soils and crops. This interest shown by many practical farmers may be looked upon as a keen awakening to the needs of a change in our methods, and that the efforts put forth by the Department in field-work in the past have not been in vain.

*Lucerne Demonstration Areas.*—It is too early to report on the results for the past year, which can only be dealt with when all the crops for the season have been secured. These demonstrations are fulfilling the purpose for which they were initiated, and are proving how poor lands can be brought to increase the production of the Dominion.

■ *Ashburton Experimental Farm.*—As usual, a special report is being prepared in connection with the operations and work carried out during the past year. It may be mentioned, however, that good payable crops of cereals have been secured, and that the lucerne demonstration area has