

the direction of the Biologist, and a report thereon has appeared in the *Journal*. A soft-turnip variety trial is being carried out to obtain information regarding yield, palatability, and keeping-qualities of six popular varieties. Among other trials are the following: New oat variety trial, winter forage crops, hay and smother crops, autumn-sown legumes and cereals, lucerne, and linseed. A considerable area is also devoted to the investigation of pastures.

On the Winton Area a considerable portion of the land has been devoted to the investigation of suitable grass mixtures for pastures, and various methods of treating such, special attention being given to the effects of grazing and liming. Sections have also been laid down in pure-pasture sowings, and the utility of these for grazing purposes is being noted. As at Gore, a section has been devoted to investigating swede dry-rot, and the control measures being carried out afford a good check on the results obtained at Gore. Considerable difficulty was experienced throughout the season in combating weeds, yarr being very troublesome. This was particularly noticeable in the section devoted to winter forage crops, and much work had to be resorted to in order to save them from being completely smothered. Among other crops tried out on the area were summer forage crops, oats for chaff, hay-production crops, linseed, and tares combined with various cereals.

Irrigation.—One of the most important problems presenting itself is the question of irrigation in Central Otago. To this subject I have given much attention, and have made a special report on the irrigation of Ida Valley. Undoubtedly the time is fast approaching when some serious investigational work must be carried out in Central Otago with a view to solving some of the many problems in connection with irrigation. Up to date a considerable amount of money has been expended by the Public Works Department in bringing the water to the settlers' holdings and so making it available for irrigation. Unfortunately, the best use is not made of such water, the methods of applying it being crude and uneconomical. The time therefore was ripe for the establishment of a demonstration area in the district, and it is hoped that the steps now being taken in this direction at Galloway will be of good service.

Boys' Agricultural Competitions.—A pleasing feature of my work has been in connection with the Otago boys' agricultural competitions. These competitions, held primarily under the auspices of the Otago Expansion League, have for their object the fostering of the emulative spirit of the boys of the province. Field competitions are held in which the boys are matched one against the other in the production of various crops, and as a result of such competition great keenness is taken in crop-production and agricultural productivity generally. There can be no doubt that the competitions are resulting in good, and, realizing this fact, the Department now subsidizes the Otago Expansion League to the extent of £1 for £1. In order to keep in direct touch with this work I have been appointed one of the committee responsible for the running of the competitions.

Lantern Lectures.—Numerous requests have been received for lectures on agricultural topics, and I have given a number of lantern lectures on various subjects. There can be no doubt that this method of disseminating agricultural knowledge is an excellent one, and it will be a feature of the work during the winter months.

General.—A considerable amount of time has been occupied in reporting on special subjects, general correspondence, the sampling of fertilizers, and answering inquiries from farmers or visiting them at their farms. These inquiries are increasing in number, indicating that the agricultural instruction service is becoming more widely known and appreciated in the district.

West Coast of South Island: C. S. Dalgliesh, Fields Instructor, Hokitika.

Weather.—The year was, on the whole, one of the best for a number of years. Heavy rains and rough boisterous weather occurred during the last two weeks in May, but from then until the middle of October there was good seasonable weather. Heavy frosts continued throughout August. September proved a fine month, which is unusual. The latter part of October was squally, and the whole of November was very bad, practically holding up all farming operations. Thereafter until the end of March the weather was excellent—in fact, considered by some to be too dry.

Pastures and Crops.—Pastures held out well throughout the summer, largely due to the occasional heavy rains. Old pastures are carrying too high a percentage of the *Agrostis* grasses, Yorkshire fog, and sweet vernal, but new ones are as a rule good, especially where lime has been applied to the land. Cropping continues to be restricted on this coast, average climatic conditions at seeding and also at harvest time making it unsafe for farmers to crop on a large scale. Some excellent crops of oats were grown during the past season, however. At time of writing there are moderate areas of turnips promising well throughout Grey Valley and Westland, but in the Murchison district they are not up to the usual standard of that locality. Carrots are doing well, as is usual in the West Coast district. An increased area of potatoes was put in, but results have not been so satisfactory as was expected. Lucerne has been experimented with in small areas, but no general success has been met with. Indications point to it being more successful on the lighter lands than on the good grass-carrying lands, and it is only on the former that I would recommend further trial.

Lime-supply.—Farmers have had continual trouble in the matter of an adequate lime-supply. Owing to the West Coast Farmers' Lime-producing Company having in hand the installation of a crushing and pulverizing plant it was February before a supply of lime was available for the southern part of the district. Murchison farmers are installing a crushing plant for the production of carbonate of lime. At Cape Foulwind (Westport), Ross (West Coast Farmers' Company), and Koiterangi an undue amount of trouble has been met with in getting men for the work required, and in securing experienced men to undertake the management of lime-burning operations. Limestone-samples have been collected throughout the district and forwarded to the Chemist for analysis; in most cases they show a high percentage of carbonate of lime. Farmers' unions and associations have been met and information supplied as to the best means of obtaining a lime-supply for the respective districts. Soil-samples collected show a lime-requirement ranging from 2 to 5 tons of carbonate of lime per acre.