

its first season over £14 value of hay, besides some grazing; while the lowest plot of clover yielded hay to the value of £9 5s. 6d. per acre. This is taking the weights off the press and reckoning the hay at £3 10s. per ton in the paddock in truss.

South Island.

In the South Island 160 farmers have co-operated with the Department, the total number of experimental plots being 2,848. Among the larger or special experiments being conducted in the South Island are the following:—

Run 938½ Tarras, Morven Hills, Central Otago.—The area dealt with during the year was made up as follows: Wheat, 20 acres; selected grasses (ten varieties in plots), 12 acres; oats for horse-feed, 30 acres; lucerne (four varieties), 5 acres.

On account of the dry season in the early part crops were light. Seed from several of the different grass and other plots were secured this season. Lucerne has done particularly well in all plots, indicating that special consideration should be given to the growing of this crop in the district. Small quantities of seed from individual plots have been harvested this season. The shelter-belts of trees were looking fairly well at close of year under review.

The Lands and Survey Department is now taking over this run for subdivision.

Manuka-scrub Area between Rivers Eyre and Waimakariri.—No. 1 area: This area, which consists of 5 acres, was broken up and sown with a variety of legumes in 1913–14, which were afterwards ploughed under. In 1914–15 the area was set out as follows: $\frac{1}{2}$ acre planted with fruit-trees; 3 acres sown with a mixture of grasses (there being two mixtures each sown on $1\frac{1}{2}$ acres); $1\frac{1}{2}$ acres sown with twelve varieties of lucerne. Both the grasses and lucerne came away well.

No. 2 area: The decision to grant this further area was arrived at in May, 1915. After being fenced, scrubbed, and cultivated, there was sown thereon in December, 1915, eleven different grass mixtures and a manurial test of turnips, comprising eleven plots. Lime was also applied in plots in different quantities per acre.

Owing to difficulties in securing the effective co-operation of the owner of the land on which the experiments have been conducted it has been decided to abandon these demonstration areas.

“Moss Banks,” Catlin’s River.—This class of country, the soil of which is of an unproductive character, stretches along the foreshore of the Catlin’s River in the Owaka district. An area was dealt with during the year under review for the purpose of discovering the best means of bringing it into profitable use. A report on the work and results will be published in due course.

Pakihī Lands (West Coast of South Island).—Wood’s Pakihī: This area consists of $6\frac{1}{2}$ acres, on which experiments were initiated in December, 1913. In 1914–15 the area was sown with oats and root and fodder crops, which were successful, and proved a revelation to the settlers. In May, 1915, a drainage scheme was completed, after which the area was ploughed and well worked. On the 9th February, 1916, the whole area was sown down with a grass mixture which is giving promise of being a success.

Sergeant’s Hill (Westport Domain): This area, consisting of 1 acre, was taken in hand in 1913. One half-acre was sown with grass in 1914–15 and proved a most successful experiment. The other half was further cultivated during the present year, and sown down with a mixture of grasses. These experiments indicate that the pahikis can be brought into profitable use by cultivation and liming and surface drainage by means of throwing the soil into narrow lands.

Forest Lands, Westland.—Rotomanu: The area of $3\frac{1}{2}$ acres sown the previous year with oats, barley, &c., not having done well, these were ploughed under and the land sown with a mixture of grasses. The individual grass plots, comprising the remainder of the total area of 5 acres, did well.

Moana: The grasses sown on $2\frac{1}{2}$ acres during October, 1915, proved very successful. A further area of 3 acres of bush was felled and burned, and on the 20th February, 1916, was sown down with a mixture of grasses.

Poerua: The lucerne variety test sown in 1914–15 did not succeed. It was decided to plough, cultivate, and sow oats and tares, which were afterwards ploughed under. In December, 1915, a variety test of maize was sown with the idea of eventually making into ensilage. A fair crop of maize was grown, and was made into ensilage under the direction of Mr. Dibble, a number of farmers being present to be taught how to make stack ensilage. Mr. Dibble also lectured on ensilage at Rotomanu.

SAND-RECLAMATION EXPERIMENTS.

During the past year little actual work has been done in this direction, owing to more pressing services engaging the time of the officers chiefly concerned, but steps have been taken to provide for more systematic experimentation in the future. After continued negotiation a reserve, forming part of the sand area of Orewa Bay, a few miles north of Auckland Harbour, has recently been handed over by the Lands Department. It is the intention to here test various sand-arresting plants and sand-grasses, and to propagate material of suitable varieties for transference to sand areas on either coast of Auckland Province. The area will thus form a testing-station as well as a nursery for sand-reclamation plants. A little has already been done in this direction. The advisability of securing and establishing similar areas elsewhere is under consideration. These areas will act as bases from which the larger sand-drift problem can be systematically attacked.