

analyses of lands at West Eyreton are given in the *Journal* for August, 1913. Mr. Furkert has had further samples taken, and these, after separation from the gravel, proved to be fine sandy silts deficient in available and total phosphoric acid, the amounts of nitrogen and other mineral plant-foods being high. The treatment indicated as most desirable would seem from analysis to be phosphatic and lime-carbonate manuring, and the stimulation of the growth of leguminosæ with a view to increasing the humus in these light lands.

The so-called "tarry" soils of Oamaru have been investigated, and found to have a lime-requirement of from $\frac{1}{2}$ to $\frac{3}{4}$ ton of carbonate of lime per acre. These soils rest on a limestone subsoil, and are another instance of the popular fallacy which assumes that because a soil is on limestone it contains sufficient lime.

Some kauri-peat soils collected by the Fields Instructor at Auckland proved to have a high lime-requirement and very low phosphoric-acid content. Further samples and field experiments are required, however, before generalizing as to the manurial requirement of this extraordinary type of soil.

The policy of examining the soils of the State farms in detail has been carried out at Weraroa, every paddock of which has now been sampled and analysed.

In connection with the lucerne experiments of Canterbury, samples of the land on which the lucerne has been sown have been taken for analysis.

Soil-investigations of the following districts have been suggested or applied for: North Auckland, Thames, Whakatane, and Westland. An understanding has been arrived at between this Department and the Lincoln College authorities that there will be no overlapping of work in connection with the soil-survey of some of the Canterbury counties, the work of which is being carried out at the Lincoln College Laboratory, and that the Department will confine its operations to counties other than those being investigated at Lincoln.

The following table shows the number of soil-investigation samples received during the year: From Whakatane County, 33; Ruakura Farm, 12; Mamaku Farm, 2; Rangitaiki district, 7; Thermal district, 11; Manawatu district, 49; Nelson District, 6; West Wanganui Inlet, 3; Westland District, 14; Canterbury District, 10; Otago Peninsula, 14; total, 161.

With regard to the testing of soils for lime-requirement, the following figures indicate, as an average, the net result of each instructor's work for the year. It must be borne in mind that reliable generalizations as to the average lime-requirement of any one province can be arrived at only after many more samples have been collected and tested.

Number of Samples collected.	District.	Average Tons of Lime-carbonate required per Acre.
70	Auckland	3.8
24	Wellington	1.8
6	Taranaki	2.3
8	Hawke's Bay	2.0
9	West Coast, South Island	4.9
14	Canterbury	1.3
16	Otago and Southland	2.3

LIME.

Limestone-supplies.

The testing of limestones and reputed limestones has been a prominent feature of the laboratory work; 161 samples were examined this year. Some of these samples were quite valueless for agricultural purposes; but the following summary of the more useful limestones tested during the year indicates many excellent sources of supply for both high-grade and low-grade limestone. The publication of Bulletin No. 22 (New Series) of the Geological Survey has brought up to date the available information of New Zealand lime-supplies.

Sample.	Particulars of Locality or Sender of Sample.	Carbonate of Lime (CaCO ₃).	Remarks.
		Per Cent.	
L/1	Kaipara Farmers' Lime Company	92.0	
L/2	Kaipara Farmers' Lime Company	72.0	
L/11	Kaipara Farmers' Lime Company	79.0	
L/12	Kaipara Farmers' Lime Company	71.0	
L/21	T. Anderson, Carrington	85.0	
L/29	H. Jeffreys, Omahanui, Wairoa	96.0	Calcareous sinter.
L/39	D. C. Smith, Whangarei	77.0	
L/40	D. C. Smith, Whangarei	74.0	
L/46	F. G. Worker, Wellsford	77.0	
L/47	F. G. Worker, Wellsford	83.0	
L/48	F. G. Worker, Wellsford	81.0	
L/55	E. Grigg, Eiffeleton	89.0	
L/103	C. W. Fairweather, Te Kaha	78.0	
L/104A	E. Broomfield, Whitford	87.0	
L/104B	E. Broomfield, Whitford	70.0	
L/135	W. G. Bamby, Marima, Pahiatua	53.0	Soft stone.
L/151	Milburn	88.0	
L/174	P. Evans, Te Akau	55.0	
L/182	Kaipara Farmers' Lime Company	68.5	
L/183	Kaipara Farmers' Lime Company	72.0	
L/214	R. P. Flood, Utakura, Hokianga	88.5	
L/224	H. J. Walton, Martinborough	90.0	
L/328	J. Fish, Aorere, Collingwood	69.0	
L/329	F. Hewitt, Waipukurau	65.0	Soft stone.
L/330	F. Hewitt, Waipukurau	75.0	Soft stone.
L/341	Farmers' Union, Mahoenui	94.0	