

During the late spring and early summer good growth was obtained over the whole of the block and a start was made with stocking early in December. During the late summer and autumn more animals were drafted on to the block, until during May it was carrying ten heifers throughout the whole of the month. For the six months commencing December, 1932, and concluding May, 1933, this field, sown less than a year ago, provided ninety-three heifer-days of grazing per acre, or an average of approximately half a heifer per acre for the full six months.

In the early stages of stocking care was exercised in holding the stock on the block during wet weather. As growth thickened it was found that little damage to the pasture resulted even during periods of continued rain. The stock used for grazing have improved in condition, and at the present time are doing remarkably well.

*Onekaka Dairying Reclamation.*—At the request of Mr. F. G. Gibbs, of Nelson, advice has been given concerning the establishment of 75 acres of pasture on a typical area of pakihi land lying between Takaka and Collingwood. The pakihi in this district have a lower rainfall and the soil contains more coarse particles than is the case on the West Coast. The lands very frequently grow stunted manuka, and in the present case a considerable area of the reclamation had to be cleared of manuka before treatment of the land and sowing could be accomplished. The cutting of manuka and the disking of somewhat hard knobs associated with manuka growth has entailed in Mr. Gibbs's case additional expense which has not been incurred by the Cawthron Institute on the West Coast. Mr. Gibbs has kindly supplied the following figures relative to the cost of establishment of pasture on his reclamation at Onekaka.

					Cost of Establishment per Acre.		
					£	s.	d.
Clearing manuka .. .. .	..	..	..	..	..	1	9 1
Disking and harrowing .. .. .	..	..	..	..	..	1	0 4
Cost of lime .. .. .	..	..	..	..	..	1	5 3
Spreading lime .. .. .	..	..	..	..	..	0	16 0
Cost of superphosphate .. .. .	..	..	..	..	..	1	2 6
Distribution of superphosphate .. .. .	..	..	..	..	..	0	6 6
Grass seed .. .. .	..	..	..	..	..	1	13 7
Sowing and harrowing .. .. .	..	..	..	..	..	0	9 9
Total .. .. .	..	..	..	..	..	£8	3 0

NOTE.—Cost of fencing, erection of sheds, &c., are not included in the above statement.

The land treated by Mr. Gibbs is typical of pakihi land at Onekaka, and consists of several nice slopes with comparatively deep soil, and on the other hand drier ridges where a seed-bed could not be obtained without disking. Owing to the presence of manuka-stumps much of the lime and super distribution was performed by hand, resulting probably in an unequal distribution of the lime and superphosphate on certain portions of the block. Many parts of the 75-acre block have taken very well, and a good growth of clovers and rye was noticeable during midsummer. On other parts of the block the results are less favourable, and clovers are not so prominent. In places the growth of young manuka is causing some concern, but it is anticipated that cutting with the mower during the autumn will kill the manuka plants. Taking the block as a whole a very fair result has been obtained, and it is confidently anticipated that the use of superphosphate at the present time will effect a wonderful improvement in the pasture next season.

The 75-acre block has been lightly grazed during this last season, and during the latter part of the season carried twenty head of dry cattle. It is hoped to make a start with dairy cows next spring.

*Phormium tenax.*—Good growth of *Phormium tenax* continues to be made on those plots where complete manurial treatment has been given. The omission of potash from the manurial programme does not make such a marked difference to the growth of plants as the omission of nitrogen. The omission of phosphate from the manurial programme has resulted in as poor growth as on the untreated plots.

*Tree-culture.*—In connection with the trials of trees for use on the pakihi land at Westport, *Pinus densiflora* followed by *P. ponderosa* and *P. radiata* have given the best results.

*Tobacco.*—A small plot of tobacco-plants was tried at Onekaka during the past season. Pakihi soil on well-drained slopes possesses features in common with recognized high-quality tobacco soils in the United States of America. The results obtained during the past season warrant a further trial. Some of the drawbacks to success during the past season have been lack of proper attention in cultivation and also lack of shelter against prevailing strong winds.

*General.*—Many inquiries have been made by farmers interested in the pakihi reclamations concerning approved methods of pasture establishment. Several new plots are being put in by farmers in the Takaka and Westport districts.

During the coming year it is hoped to maintain without extension the experimental work which is in hand. If funds permit, shelter-belts will be planted along certain boundaries of the small farm which has been sown at Sergeant's Hill.

THOMAS H. EASTERFIELD,  
T. RIGG,

Officers in Charge of the Pakihi Investigations.