



Loading lime on to a farmer's lorry at a Southland works.

Most of the meetings attended by the three enthusiasts were "very stormy", and some were quite hostile, but they nevertheless paved the way for development.

The works at Forest Hill were abandoned eventually, chiefly because lime had to be taken 5 miles over a rough bush tramway to the rail, but other works were opened.

Development of Limeworks

In 1901 the works at Limehills were taken over by J. G. Ward and Company Ltd., and a works at Browns was opened about 1912. (This works is now known as the Browns Lime Company.) In the same year a works was also opened at Clifden; it is now known as the Clifden Lime Company. In 1917 Mr. J. Doherty, whose name is closely associated with the development of the use of lime in Southland and who had been keenly interested in the works at Browns, opened a quarry at Lady Barkly. Farmers in the various districts were not particularly interested in the opening of the works; in fact, large quantities of carbonate of lime (in total, hundreds of tons) were given to farmers to convince them of the good qualities of this form of lime.

Another limeworks was opened by Mr. Doherty in 1919 at Centre Bush and is still operating. As farmers found that liming paid opposition to the use of carbonate of lime was steadily overcome and works were opened up at Lady Barkly, Forest Hill, Fernhill, and Dipton, and another at Limehills.

Land Classes and Lime Requirements

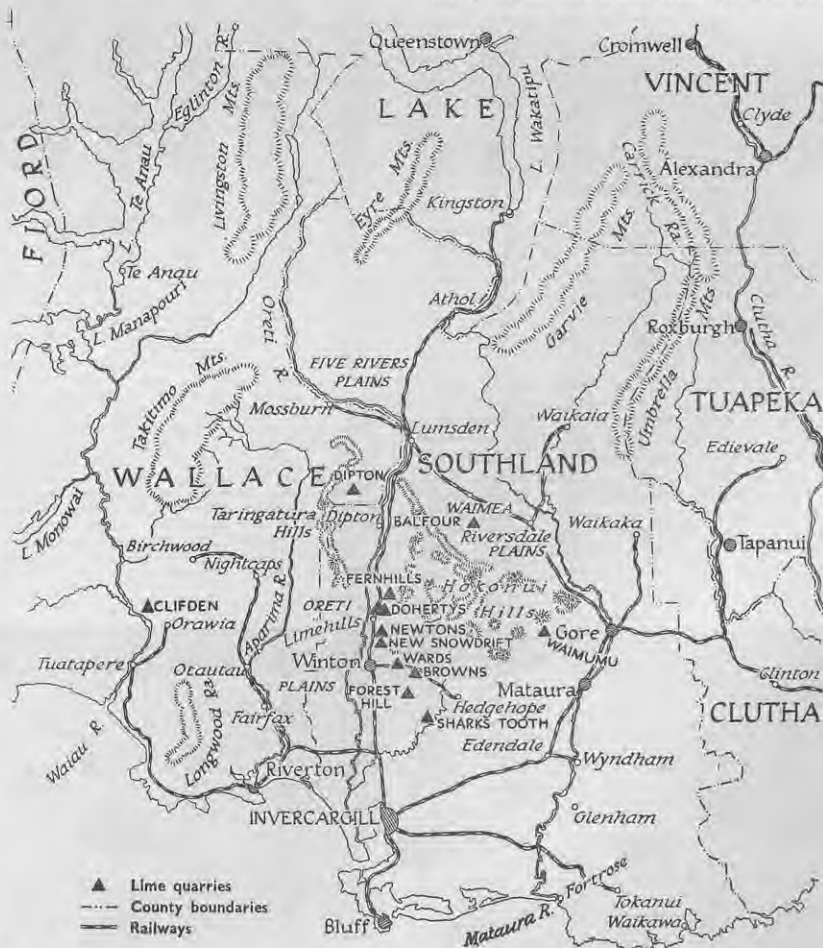
Southland soils may be divided conveniently into two major classes, which correspond to a great extent with the topography of the farming land. In the river valleys is an alluvial deposit, which in the higher reaches of the

rivers is light and shingly and on the lower levels and toward the coastal area is a rich, deep, sandy loam. The second soil is a silt loam, which occurs on most of the rolling country. The texture of this loam varies considerably, from a medium, fairly free-working soil to a very moisture-retentive type with a greater admixture of clay. The subsoil of the rolling country is generally compacted and can be mole drained successfully. Irrespective of their texture Southland soils all show response to liming.

The silt loams of the rolling country, particularly those which are moisture retaining, generally require more lime than do the alluvial soils of the river valleys. On rolling country an application of 2½ to 4½ tons of carbonate of lime per acre from time of breaking up to sowing down has been found not only advantageous but necessary if best results are to be obtained from the sown pastures.

Improvement of Downs Country

An example of the improvement that has been made, and where this improvement has been closely linked with the use of lime, is a fairly extensive area of downs country of the Waimumu-Te Tipua district. This area is bounded on the east by the terrace of the Mataura River valley between Gore and Edendale and on the west by the Hokonui Hills. The soil is fairly light silt loam overlying a very



Map showing lime quarries in Southland.