

fixing and reclaiming in such a way with a plant covering that, when sufficient organic matter has been introduced, suitable grasses may be planted, and thus finally a permanent sward be established. An active foresting policy might prove the first stage to the economic reclamation of the most intractable of the sands. All the elements except nitrogen are present in good proportions for the growth of ordinary farm-crops suitable for light sandy country. Nitrogenized organic matter could be accumulated in the soil by foresting the area or by growing suitable plants, such as lupins, &c. One would think that pine plantations would be a great asset to this thickly settled district for the timber produced as well as for the beneficial effect on the soil.

L 862/3, 866/7, and 868/9 represent the type of soil which is the mainstay of the farmer in all countries—the loams.

L 862/3 were collected on the upper road of the peninsula, at an altitude of 500 ft., in the remains of forest consisting of rimu, totara, mahoe, fuchsia, broadleaf, bramble (*Rubus australis*), elderberry, coprosma (several species), *Panax Colensoi*, *Drimys*, and *Muehlenbeckia australis*.

L 866/7 were collected on the slopes of Harbour Cone in rye-grass, clover, and timothy pasture. This soil has an abnormally high phosphate content. Silt is the largest fraction, therefore the soil should possess a sufficient but not too great power of retaining water. The fine silt is lower than the clay, which is present in satisfactory amount. As there is a considerable amount of fine sand, the absence of coarse sand is no disadvantage. One would predict high fertility for this soil from a consideration of its physical and chemical characters and climate, and a profitable return to its owner owing to the proximity of the locality to the market.

L 868/9 were taken in a salt-marsh plant association at the foot of Harbour Cone, on the shores of Hooper's Inlet. The soil is a silt loam resting on a fine sandy loam, and is subject to inundation by the brackish water of the inlet. The abnormally high potash content and the unbalanced lime-magnesia ratio are characteristic of salty soils, as is also the good amount of phosphate present. The proportion of silt is rather too high, but this might be remedied by bringing up some of the sandier subsoil when these silty soils come to be reclaimed.

---

*Nosema apis*, the protozoon occupying the epithelial cells of the chyle stomach of bees, has been traced to many parts of the Dominion, and it would appear to be almost universal. Its presence in bees, however, cannot be associated with any acute disorder in New Zealand, though minor troubles have been occasionally found present in bees harbouring the organism.

---

*Phosphates in New Zealand.*—A new locality for the occurrence of phosphate rock in New Zealand apparently exists in the North Auckland district. Mr. H. Parsons, of Rawene, Hokianga, forwarded to the Department's Chemical Laboratory last year a specimen of rock which contained 11.12 per cent. phosphoric acid, equal to 24.4 per cent. tricalcic phosphate. A specimen of greensand, received from Mr. L. W. Kempthorne, of St. Andrew's, near Timaru, was found to contain 4.1 per cent. phosphoric acid, equal to 8.95 per cent. tricalcic phosphate.