

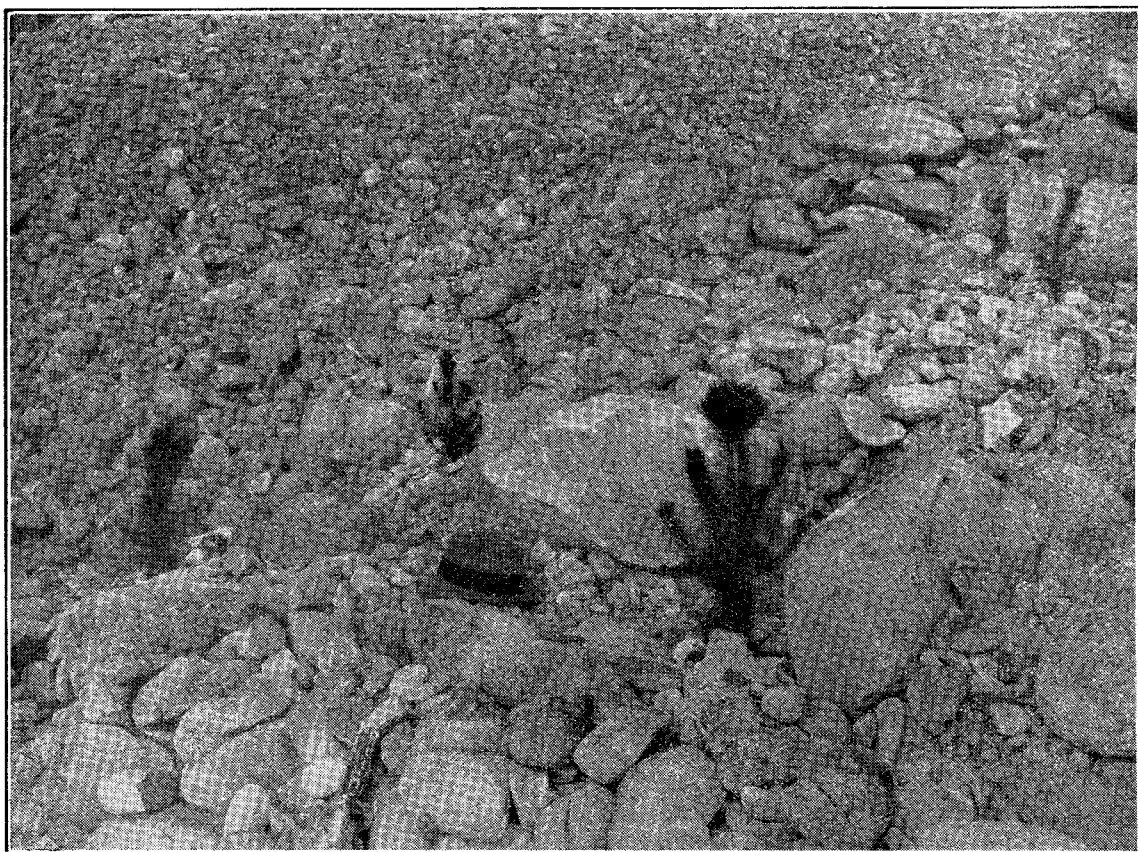
## 4. SILVICULTURAL INVESTIGATIONS.

*Westland Forest Experiment Station.*

The experimental work in connection with restocking the cut-over indigenous forest lands near Hokitika with exotic species was further advanced by the planting of 109,268 trees on 130 acres, and the total area restocked, including 12 acres on dredge tailings, now stands at 482 acres. The principal species planted were insignis pine (*Pinus radiata*), *Pinus muricata*, *Pinus laricio*, and *Pinus pinaster*, while trial lots of *Cupressus macrocarpa*, *Cupressus Lawsoniana*, *Cryptomeria japonica*, *Sequoia sempervirens*, *Populus fastigata*, *Populus monilifera*, *Cunninghamia sinensis*, *Eucalyptus viminalis*, *E. Macarthuri*, *E. obliqua*, *E. regnans*, and *E. Gunnii* were also planted in selected positions located in the detail surveys executed prior to planting operations.

Two-year transplants, instead of yearling trees, have been used during the past planting season, so that they might compete upon more favourable terms with the vigorous growth of fern and scrub, which has necessitated periodical clearing in order to save the young trees from suppression. The establishment of sixteen sample plots permits the compilation of accurate and valuable data relating to the growth and adaptability of the various species introduced, and the ultimate planting of only proved acclimatizable timber-trees.

Recognizing the importance of this experimental work to the whole of the Westland Province, special precautions against loss by fire have been taken. In addition to the usual lookout and patrol system, water-holes have been dug at short intervals along the adjoining much-frequented tourist road from Hokitika to South Westland, and fire-buckets and portable fire-fighting pumps installed.



THE URQUHOUS INSIGNIS PINE (*Pinus radiata*): PLANTED IN 1924 ON DREDGE TAILINGS NEAR HOKITIKA.

*Experimental Planting on Dredge Tailings.*

As the results obtained from the experiments undertaken at the request of the Hon. G. J. Anderson, Minister of Mines, of planting exotic species on dredge tailings at Rimu, near Hokitika, were so successful a further 7,532 trees of the same species were planted on 12 acres of dredge tailings during the recent planting season. It is yet too early to comment definitely on the recent planting, and results will be available next season from the sample plots established on the area.

*Rangitikei Sand-dune Experiment Station.*

This station was established on an experimental basis in May, 1921, for the purpose of the Forest Service developing a definite procedure of construction, cost, method, and result for reclaiming and bringing into national production the several hundred thousand acres of New Zealand's wandering sand-dunes.

Building upon the results and experiences of past years, excellent productive work has been accomplished at the station during the reporting period, when 222 acres of marram-grass and 73 acres