

## RECLAIMING SAND AREAS.

IMPORTANT work is being carried out in the South Island by the Fields and Experimental Farms Division of the Department in the reclamation and the utilization of sand areas. The procedure which had been found most successful in checking drifting sands by settlers in the South was the use of marram-grass and sea-lyme grass, and the sowing in the sand, on the land side, of tree-lupin, gorse, and broom—three members of the legume family. These not only add nitrogen to the sand, but, by reason of the foliage they shed and their decayed stems and roots, they provide the desired organic matter, and humus is thereby created. A further stage in the work of reclamation was introduced by the Department. This consisted of cutting down the tree-lupin, broom, and gorse when these had served their main purpose of binding the sand, and planting on the improved area the annual lupins—the white, blue, and yellow—and ploughing these in when about four months old. The burying of the heavy foliage and roots adds a large amount of organic matter to the sand, while the nitrogen-content is further increased.

It has already been demonstrated that lucerne will flourish well after the tree-lupin, gorse, and broom have been removed, and potatoes, carrots, and parsnips have also done well. Ryecorn has been grown with equal success. With the introduction of annual lupins (for which the Fields and Experimental Farms Division of the Department is responsible) and the growing and ploughing-in of these a simple solution for the utilization of sand areas is presented. The process, it has been conclusively proved, will gradually convert the shifting sand into a sandy loam capable of retaining moisture and of growing leguminous crops, the persistent cultivation of which under such conditions must undoubtedly quite transform the character of the sand and convert it into a valuable plant-growing medium. The plants employed in the South Island experiments (which are to be continued and extended) are pictured on the following page as they were exhibited at the recent winter shows.

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In pot experiments initiated to determine the cause of the almost sterile nature of some of the soil of the Ruakura Farm of Instruction it would seem, reports the Manager, that the want of sufficient lime in the soil is one of the main causes of sterility.