

of "bush-burns" in general can be relegated to rain forest, and the grass-land derived from it comprises much of the very best of the permanent grazing-land of New Zealand.

Southern-beech Forest Grass-land.—This occupies a comparatively small area, and forest-land of this type is amongst the most difficult of any in New Zealand to grass successfully. In many cases the earlier attempts resulted in failure, as can be well seen on the low hills along the eastern side of the Hutt Valley, near Wellington, where the land has in many cases reverted to manuka.

Tussock Grass-lands.—These are mainly located in the South Island, and are of various types. Much of the land originally covered with the lowland tussock type is now under rotational grass, nearly all the cereal-growing districts having been lowland tussock in the past. In Southland large areas of tall tussock (*Danthonia Raoulii*) moor have been converted by drainage and liming into both rotation and permanent grass-land.

Reclaimed-swamp Grass-lands.—This type of pasture is scattered throughout both Islands, and many of the areas comprise the best fattening-land in the Dominion. Their conversion has been attended with much difficulty, and the great expenditure necessary to drain them sufficiently to grow grass has been a bar to their rapid conversion into grass-land.

Heath Grass-lands.—These have been derived from two main types—wet heath, being very closely related to moor, and dry heath, mainly comprising fern-land and manuka scrub.

The above classification is an extremely rough one, but it serves to show from what varied types of original vegetation our grass-lands have been derived.

THE CONVERSION OF FERN-LAND INTO GRASS.

In dealing with the conversion of fern-heath into grass it is well to understand that there are two main types of fern-land. The first is what I term natural fern-land, and which has been continuously in fern, even prior to the time that the first Europeans landed in the country. The other type, which I term artificially induced fern-land, did not carry fern before being brought under occupation. Fern-land in New Zealand occupied very large areas prior to the advent of settlement; but, arguing from what has occurred over a very large extent of bush-burn country, I am inclined to think that much of the land now occupied by what appears to be a primitive vegetation became clothed with fern subsequent to extensive forest fires occurring in