

a fair depth of soil, healthy and strong tussocks; but wherever this better pasture was intersected by strips of light, stony land, the tussock or grass was either dead or dying. Wherever we travelled on the plains the appearance of the vegetation proved a sure indication of the quality of the land. It is therefore quite evident that no new species of grub is responsible for the depletion of the tussock. It will, no doubt, be a difficult and slow process in any circumstances to regrass the Mackenzie Plains. The light nature of the soil—a few inches, over shingle—and the hard frosts, which loosen the ground, and throw all young or shallow-rooting plants on to the surface, to be dried up during a hot summer, increase the difficulty. It is quite possible that Chewing's or hard fescue grass might give fair results after the sowing in the spring if the sowing was followed by a wet summer to help it to become well established before the winter set in. Irrigation would prove an effective means of improving the Mackenzie Plains; but at this stage of our development the cost would be out of proportion to the benefit derived from it. Probably the least costly and most effective scheme would be the planting of suitable trees, so as to form shelter-belts and breakwinds, and thus prevent the cold winds from sweeping unchecked across the plains. Shelter-belts of trees would undoubtedly modify the climate, and at the same time permit of the preservation of the humus content of the soil. In sheltered spots we found the scab-weed (*Raoulia lutescens*) spreading, and in this weed the native grass tends to establish itself. The growth of this scab-weed is an illustration of Nature at work; and if the growth of this plant is accelerated by shelter, common-sense suggests that shelter-belts of trees are essential to the propagation and growth of artificial pastures.

INDISCRIMINATE BURNING OF TUSOCK COUNTRY.

Probably nothing has contributed more to the wholesale destruction of thousands of acres of pastoral country than the indiscriminate burning of the native tussock. This pernicious practice is not prompted by the desire to destroy Crown property; it is due to either negligence or ignorance of the licensees, which is all the more surprising, seeing that the practical effect of injudicious burning is really to reduce very materially in a few years the carrying-capacity of the property. That a proper amount of burning at the proper season is necessary, and not really injurious to the pasture, but beneficial thereto, will be admitted by those who are acquainted with the practical working of pastoral country. What is to be strongly deprecated, and prohibited, is the summer burning, which is almost invariably due to the musterers, who signal to one another from ranges by means of fires, which are lit for that purpose. These fires are allowed to spread rapidly, unchecked, over a large area of country. When the fire travels over the sunny faces the tussock is practically burnt out, and a very dry summer finishes it. An impetus to disintegration of the mountains is the result of this practice, as is evidenced by the loosening of the rocks, which tear away the mountain-sides in the form of shingle slides. As a rule, pastoral lessees give their irresponsible musterers a free hand as to burning. The new licenses ought to contain a condition prohibiting the burning of native grasses except in the spring-time for the purpose of fire-breaks, which are necessary to prevent the spreading of accidental fires, which occasionally, during a dry summer, sweep large areas of country and do serious damage; or within periods of four years, for the purpose of renewing the tussock. The inspection of pastoral runs should be carried out systematically, to insure that the provisions of the pastoral licenses are complied with. The duty could be undertaken by the various Rabbit Inspectors without much trouble, as these officers are continually on inspection-work in the back country.

SURFACE SOWING.

Although a great portion of the country which we visited in the course of our inspection is not, perhaps, adapted for systematic surface-sowing of English grasses, yet we believe that there are localities on many of the runs