system of management that may lead to permanent and successful occupation of the land. It must not be forgotten that, as regards holdings that have almost wholly reverted to secondary growth—and this is particularly true of bard fern—there are no examples on a large scale where elimination of the secondary growth has been secured by the adoption of any definite set plan of operations. Many surmises with regard to methods of control are in the air. These can be divided into the following groups :—

(1.) *Increasing the number of cattle grazed.*

At the present time Whangamomona County has about one cattle-beast to every 12 acres of originally sown country, excluding the dairy cows that are occupying the majority of the better-grassed plots. In such a county as Weber, where grassland is good but mainly of the reverted danthonia and brown-top type, one cattle-beast to about 8 acres of sown grassland is kept. It would appear as if the number of cattle necessary to effect any control on second-growth country would have to be largely increased, when it is seen that even when the country is in excellent grass one cattle-beast to every 8 acres to 10 acres is necessary. In Weber County, although there is a cattle-beast to every 8 acres, the relation of cattle to sheep is one to fifteen. The relation of run cattle to sheep in Whangamomona County is about one to eight. Grassland farmers in the North Island have been in the habit of using the figure between cattle and sheep as the index, whereas it is the relation between cattle and number of acres that is the real index that determines whether sufficient cattle are being employed. On good grassed country one cattle-beast to every 8 acres to 10 acres, and even less, tends to increase the number of sheep that can be kept. For instance, in Patangata County, the highest sheep-carrying-capacity county in New Zealand, one cattle-beast to 6 acres of grassland is kept, approximately half the sheep being wet ewes.

The following table gives some stock figures for certain counties in the North Island :—

Number of Stock carried per 1,000 Acres of Sown Grassland.

County.	Dairy Cows.	Other Cattle.	Sheep.
Waitomo	57	160	650
Whangamomona	28	90	700
Kawhia	44	220	730
Ohura	50	160	800
Kaitieke	30	120	1,100
Makara	70	70	1,400
Castlepoint	2	160	1,700
Akitio	6	150	1,700
Uawa	15	140	1,800
Weber	4	130	1,800
Patangata	12	170	2,000

One point that appears fairly clear is that an increase in the amount of dairying carried out leads to a very rapid deterioration of the hill country : in other words, the dairy cow is a useless factor in the control of secondary growth. The ewe, again, in contradistinction to the wether, is a factor that exerts an influence in the direction of increase in secondary growth, and much country at present partly used for wet sheep is quite unsuitable for the purpose, having permanency of the grass sward other than by manuring in consideration. However, both the dairy cow and the ewe are potent sources of immediate revenue, and their elimination on holdings where secondary growth is rapidly gaining the upper hand would render the immediate returns from such holdings quite insufficient for the owners to remain in occupation unless their finance was in good shape—a rare circumstance even at the present time, when meat, wool, and butterfat are all on a high level.

On land where the sheep-carrying capacity is low owing to the large percentage of ground being occupied by secondary growth, increasing the number of cattle, unlike on good danthonia country, must tend to reduce the number of sheep kept, and, as the yearly grazing-value of a store cattle-beast is low, would cause a reduction in the gross annual returns. A surprising feature in the deteriorated grasslands of Whangamomona County is the really high carrying-capacity of the land actually carrying a grass sward. In that country 108,000 acres of forest have been grassed, and I should say at a guess more than 40 per cent. is occupied now by secondary growth. There are probably less than 50,000 acres of actual good grass, of which 3,000 dairy cows will be occupying at least 9,000 acres, which means that the actual grassland itself is carrying virtually two sheep to the acre. Were it not for this fact one would have the very gravest doubts as to whether it were worth while either to try and assist the present holders or to suggest any extensive research and experimental work into the question of secondary-growth suppression on such country. I think it is fair to assume that an increase in cattle would tend to reduce second-growth invasion, and if such is the case the practical aspects require careful consideration. On country that is moderately clean the extension in the use of cattle would not result in any great yearly loss ; but it is essential that a thorough study of the economics of cattle as a means of control should be immediately made, so far as possible, with reference to all the varied types of country. This study should secure the basis for