

flies. As one travels east to the plains, so also the south-west rains become greater, but it is the summer nor'westers that frequently delay shearing and promote the survival of brown-top.

With the exception of the Alford Forest, situated on the edge of the hill country, the bush is confined to a few beech gullies, often insufficient to supply fuel.

The country consists of hills and high ranges lying between the gorges of the Rakaia and Rangitata Rivers. There is not, however, any definite arrangement of main range with subsidiary spurs leading to the plains. On this class of country the aspect of the land is all-important. The slopes facing north or north-east determine the amount of winter country—*i.e.*, country on the lower slopes of which the flock can be maintained during the period May–August reasonably safe from snow, or where the snow does not lie deeply for a long period. Flat land in this class of country has not the significance as when it is good agricultural land, since a run may have a large area of flat consisting of worthless river-bed or silt-flat which, with a slight slope from the sun, will be colder and wetter than a high slope facing to the sun.

CARRYING-CAPACITY OF THE HILL COUNTRY.

The carrying-capacity of the runs surveyed varies considerably both in sheep per acre and the proportion of ewes to wethers. It is possible to grade the country into four main types and to indicate what variations exist. They are as follows:—

(a) *Half-bred Ewe Country*, which comprises downs and the best of the foothill country and covers about 11,000 acres, and which carries one sheep to the acre, and winters the hoggets with supplementary crops, hay, &c.

(b) *Half-bred Ewe Country with little or no Ploughable Land*.—This grade of country winters the ewes and carries one sheep to from 1 acre to 3 acres, except during the winter months, when the hoggets are sent to the plains. This type of country is slightly higher and rougher, and the hoggets are wintered away, either because there is not the shelter country for both ewes and hoggets, or because there is not a suitable area for growing turnips. This grade comprises about 40,000 acres, and carries about 19,000 sheep.

(c) *Half-bred Ewe and Wether Country*.—On this grade there is a considerable area of rough country suitable only for wethers. The hoggets are wintered away, but exceptions occur where there is good turnip-country and the hoggets are retained. The country runs one sheep to from $2\frac{1}{2}$ acres to 4 acres. This country comprises about 159,000 acres, with a total of 59,000 sheep, of which 20,000 are wethers, the proportion of wethers to ewes varying from about one-third to one-half.

(d) *Merino Country*.—This comprises the roughest area, liable to snow and bounds on the unused country. The barren areas are large and have to be mustered for stray mobs of wethers. The carrying-capacity is not, however, below that of the half-bred country when calculated on the area of grass only. The number of wethers is about 31,000, with a total of all sheep of 81,000 on an area of about 233,000 acres—*i.e.*, one sheep to from $2\frac{1}{2}$ acres to 4 acres. The hoggets and two-tooth ewes are wintered on the plains in all cases.