deficient in phosphates to permit the growth of clovers on the necessary scale, so the land needs to be manured with a top-dressing of superphosphate which costs at present £8 11s. a ton in paper bags at the works. The phosphate enables the clover to grow, the clover puts nitrogen into the soil, and the nitrogen increases grass-growth and permits the use of highly-nutritive grasses. This is the general fertility cycle of New Zealand pastures.

(v) Rainfall

Fertility is not the only factor which affects pasture-growth. Rainfall has a tremendous influence. Maps 2 (i) and (ii) show rainfall conditions. Areas marked in black have a very heavy rainfall, which makes sheep-farming difficult; areas in lines have a heavy rainfall, which brings problems of second growth, and require cattle to consume surplus growth. The area in dots has an ideal rainfall for the sheep industry, while the clear area has a low rainfall with associated problems—unless, of course, it is irrigated, in which case it is artificially brought into a higher rainfall group.

(vi) Climate and Contour

The other basic influences to be discussed here are those of contour and climate. Some parts of New Zealand which are steep and precipitous are of little or no farming value. But by far the greater part of the country varies from flat plains to hills suitable for grazing animals as shown in map 3. The whole country lies in temperate latitudes, and both in the far north and in the far south there are suitable conditions for sheep-farming. Above the height of approximately 2,000 ft. cold restricts the winter growth of grass in both Islands, and good farming conditions are limited generally to land below 2,000 ft. altitude. Again, most of New Zealand lies in the suitable zone.

Climatic conditions vary from farm to farm even in the same district. Country which slopes into the sun—that is, to the north-west—is better than south-facing country. Country which is sheltered from the prevailing wind is better than exposed country. Absence of liability for heavy snow is a factor. In addition to these farm-to-farm variations, there are certain major differences which enable us to discern different types of sheep-farming—or what we might term "sheep-farming regions." Since the problems of the industry are mainly regional in character we shall set out the principal characteristics of these regions as stated by the Department of Agriculture:—

3. SHEEP-FARMING REGIONS

(i) North Island Regions

(*a*) *Northland*

This region, the area north of Auckland City, extends northwards from what has been termed the "kauri line," which marks the southern boundary of the natural kauri forests. Apart from the importance of paspalum as a pasture-plant and the citrus orchards at Keri Keri and Tauranga, the sub-tropical nature of the North Auckland climate is little apparent from its farming, and it is a mixed dairying and sheep-farming area.

The long, narrow North Auckland Peninsula extends in a north-westerly direction from Auckland City and is 200 miles long, with a maximum width of 60 miles. The land surface consists of scattered fragments of mountain ranges composed mainly of greywacke and basic volcanic rocks, joined together by hills and rolling downs of claystone, sandstone, and limestone.