

North give great variability to our soils, each differing from anything known in Britain.

The prevailing south-west wind charged with moisture, which is mostly deposited on the west coasts of both Islands, is a climatic feature of great importance. Nelson owes its sunshine and calm to the barrier of Mount Arthur and his lesser neighbours. On the other hand, the wet area from near Dannevirke to Eketahuna is due to a gap of about thirty miles in the Ruahine Mountains, which stretches from Shannon to the north of the Manawatu Gorge. The moisture-laden western winds flow through this low saddle, and the slight elevation given to the air-current by the hills in this gap (they cannot be called mountains) cools it sufficiently to bring about condensation from Woodville to Dannevirke and Eketahuna. Farther south, near Otaki and Levin, the Tararua Mountains attain a height of more than 5,000 ft. In the path of the moving air they are like a huge rock in a deep-flowing river. They cause a calm or backwash of air, as does a rock water in the stream above it. For this reason Levin and Otaki are drier, sunnier, and less windy than either Palmerston North or Wellington. The almost constantly moving mass of air, meeting with the obstruction of these lofty areas, is divided and swirls round them to the south through Cook Strait at Wellington, and to the north through the Shannon-Manawatu Gorge gap, like the water-current at the sides of the obstructing rock. We have thus from different but clearly recognizable causes many climates which, despite our complaints about the vagaries of our weather, are fairly constant from year to year, and in time will cause changes in the nature of our introduced flora. These different soils and climates will be found suitable to the introduction of other plant-forms new to us.

The destiny of these Islands is to be the home of numerous small farmers. The extraordinary fertility of much of our soil, the general healthiness of our domestic live-stock, and the remarkably various kinds of plants that the different soils and climates are capable of producing, all indicate the lines on which the country should develop. The world is getting short of food and clothing, and will take more than this country can ever produce of wool, cheese, butter, and other primary products. Anything, therefore, that can add to these either in quantity, quality, or novelty is most important.

#### GRASSES.

These are the most valuable of all plants—apart from cereals, which are grasses—and are with careful selection and breeding capable of vast improvement. The good work being done by plant-breeders is now being slowly recognized. But in addition to the grasses that we as colonists have brought with us to New Zealand there are others well worth introducing.

In certain areas of the earth there are many kinds of grasses entirely unknown to New-Zealanders generally, but which are likely to be of great value to this country in future. The most promising area for exploitation and discovery in this respect is central Africa. There vast numbers of the largest animals, elephants, rhinoceri, buffalo, not to mention the countless herds of antelope, find sustenance largely, and in some cases almost entirely, on the grasses produced by