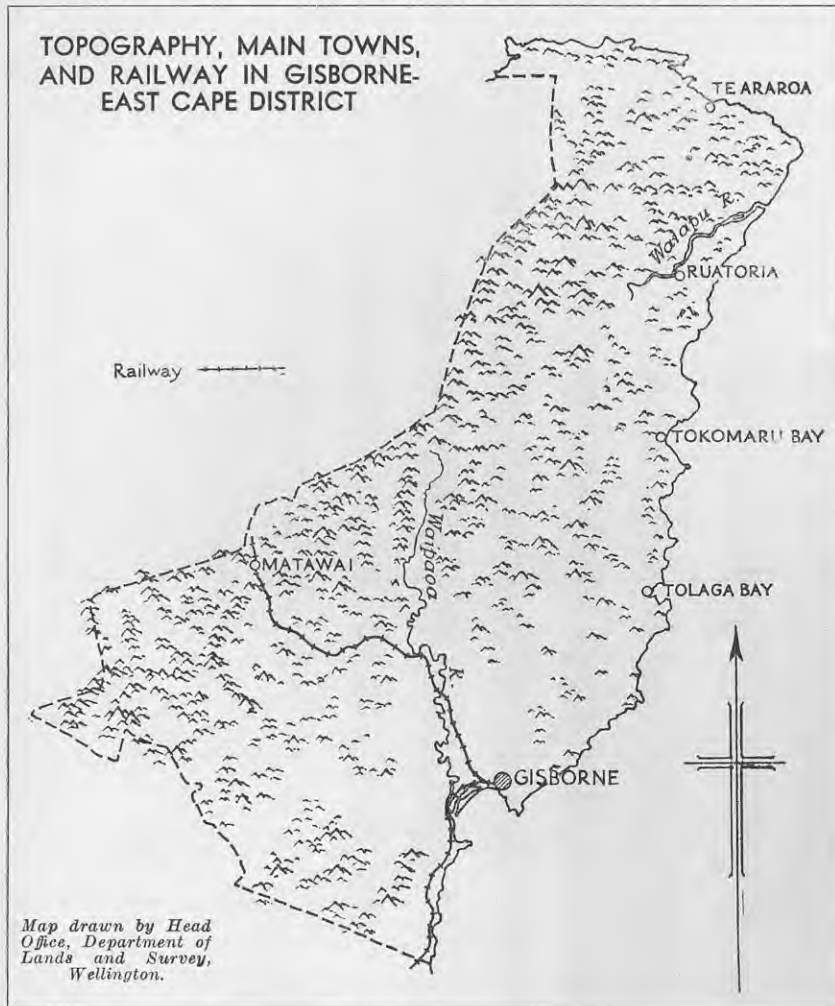


FARMING IN GISBORNE-EAST CAPE DISTRICT

TOPOGRAPHY, MAIN TOWNS, AND RAILWAY IN GISBORNE-EAST CAPE DISTRICT



periods are not uncommon. With such distribution and intensity of rainfall it is understandable why erosion is so widespread in the district. The rain-bearing southerly is usually cold in winter and spring and is often the cause of mortality in newly born lambs. Although frosts are experienced, on the coastal areas they are relatively light compared with those in most other parts of New Zealand. Occasional late frosts in October damage tomato, maize, and potato crops. Infrequent falls of snow occur on the high country, but lie only for a few days. In some years quite heavy summer hail storms occur and do considerable damage to stone-fruit crops.

Soils

The soils of the Gisborne-East Cape district are classified into four groups.

1. **Skeletal yellow-brown earths:** These soils, which are derived from mudstone and papa, occur on the steep country. There are patches of greywacke and sandstone throughout the papa-country belt, the greatest single area being in Matakaoa County. The soils derived from greywacke and sandstone formations have not the fertility of the papa country, and under

the high rainfall of Matakaoa County pastures quickly revert to secondary growth.

Papa and mudstone, being sedimentary rocks with a high lime content, crumble down to a fine, "sweet" soil which maintains a productive sward of grass. Because of the steepness of the country there is in effect a thin layer of weathered papa (the topsoil) overlying papa rock (the subsoil). There is a continual movement of weathered papa from the top to the bottom of slopes and this acts as a fertiliser of new soils and helps to maintain pasture in first-class condition. Thus papa country usually makes good grazing land, but unfortunately this is not always so, as at high elevations and under high rainfall, secondary growth comes in very strongly.

Papa rock is very subject to erosion, and much serious slipping and gully-ing takes place. To farm successfully country on which erosion is fairly severe an increasing amount of attention must be given to preventive methods such as space planting of trees, erection of debris dams, and the maintenance of a good grass cover. Minor surface slips are of no moment, because they regrass and heal over quickly.

The water supply of the country runs out fairly quickly in dry summers and measures have to be taken to ensure its preservation; such measures include the construction of concrete dams across creek beds and the excavation of natural hollows with bulldozers to form large pondage areas.

At present only a very small part of the papa country is topdressed with superphosphate. Lime and potash are not required, but good responses are obtained with superphosphate applied at the rate of 2cwt. per acre.

2. **Yellow-brown earths:** The yellow-brown earths occur as a block of rolling to moderately steep hill country occupying approximately 60,000 acres in Waiapu County. The soil is friable, crumbly, and free draining and is yellowish brown, due to a high iron content. The soils have been formed through the weathering of the mudstone and argillite and originally were in heavy bush. Since being cleared much of the easier country has gone back into manuka. The rainfall is high over the area, about 80in., and this coupled with the free-draining nature of the soil results in fairly high loss of plant nutrients to the drainage water. Responses are obtained from the use of lime, potash, and phosphate, though the response to the last is much more marked than that to lime and potash, and it is the only fertiliser considered economic in the area. The easy manuka country can be brought into useful production by clearing it and sowing down with an initial dressing of 3cwt. per acre of superphosphate followed by dressings of 2cwt. per annum.

3. **Yellow-brown pumice soils and yellow-brown loams:** These soils have been formed from the Gisborne and Taupo ash showers, the pumice from the Gisborne shower being generally much coarser than that of the Taupo shower. In the main they cover rolling hill country with an easy gradient and occur in the Motu, Matawai, Waerenga-a-hika, Rere, Tiniroto, and Wharerata districts. In the natural state the land was of very low fertility with manuka occupying the hill slopes

MEAN ANNUAL RAINFALL, GISBORNE-EAST CAPE DISTRICT

