

This Information Sheet describes the *typical average properties* of the specified soil. It is essentially a summary of information obtained from one or more profiles of this soil that were examined and described during the Topoclimate survey or previous surveys. It has been prepared in good faith by trained staff within time and budgetary limits. However, no responsibility or liability can be taken for the accuracy of the information and interpretations. Advice should be sought from soil and landuse experts before making landuse decisions on individual farms and paddocks. The characteristics of the soil at a specific location may differ in some details from those described here.
No warranties are expressed or implied unless stated.

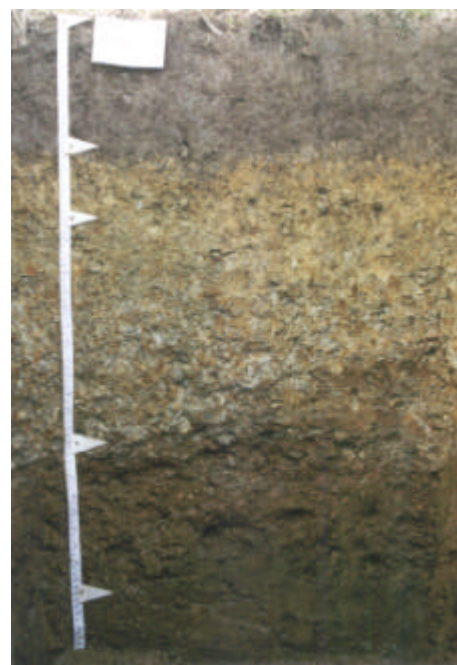
Soil name: **Dipton**

Overview

Dipton soils occupy about 5,000 ha on intermediate and high terraces in northern and western Southland. They are shallow soils formed in a thin layer of loess that overlies weathered greywacke and schist gravels. They are poorly drained shallow soils with stony subsoils. They have a clayey texture in the subsoil which retains moisture well and makes them less prone to summer droughts. Natural fertility is not high and soils respond to lime and phosphate. They are suited to pastoral farming and some cropping.

Physical properties

Rooting depth is moderately deep and plant available water is moderately high, being limited by the gravelliness of the lower subsoil. Permeability is moderate, grading to slow in the dense lower subsoil. Textures grade from heavy silt loams in the topsoil to silty clay and clay loams in the subsoil. Topsoil clay content is 30–40%. Topsoils are commonly slightly gravelly, with very gravelly horizons occurring within 45cm depth.



Insert soil name profile

Fertility properties

Topsoil organic matter levels are about 5%; P-retention values 25% in topsoil increasing to 50% in the subsoil; pH values medium but tending to decrease down the profile. Cation exchange values are medium with base saturation values high. Reserves of phosphorus and potassium are low, but there are high levels of sulphate sulphur in the subsoil. Magnesium levels are adequate. Nitrogen fertiliser is required if maximum crop or pasture growth is desired. Trace elements are adequate, although brassicas may respond to boron and legumes to molybdenum.

Associated and similar soils

Some soils that commonly occur in association with Dipton soils are:

- Kaweku: well drained, shallow soils on high terraces
- Waikoikoi: moderately deep to deep; poorly drained due to fragipan
- Oreti: well drained, shallow soils on intermediate terraces
- Glenure: moderately deep to deep; poorly drained; without a fragipan

Some soils that have similar properties to Dipton soils are:

- Lumsden: on floodplains and low terraces; poorly drained due to high groundwater.
- Caroline: has a cemented iron pan in the subsoil
- Longridge: on fans
- Sobig: moderately deep soil on high terraces from tuffaceous greywacke alluvium

Sustainable management indicators

Note: the vulnerability ratings given in the table below are generalised and should not be taken as absolutes for this soil type in all situations. The actual risk depends on the environmental and management conditions prevailing at a particular place and time. Specialist advice should be sought before making management decisions that may have environmental impacts. Where vulnerability ratings of Moderate to Very severe are indicated, advice may be sought from Environment Southland or a farm management consultant.

Vulnerability factor	Rating	Vulnerability compared to other Southland soils
Structural compaction	Severe	These soils have a severe vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects poor drainage and low topsoil P-retention.
Nutrient leaching	Slight	These soils have a slight vulnerability to leaching to groundwater. This rating reflects the moderately high water-holding capacity and the slow subsoil permeability
Topsoil erodibility by water	Slight	Due to the topsoil clay content, the topsoil erodibility of these soils is slight. Erodibility is highly dependent on management, particularly when there is no vegetation cover.
Organic matter loss	Slight	Vulnerability to long-term decline in soil organic matter levels is partly dependent on soil properties, and highly dependent on management practices (e.g., crop residue management and cultivation practices)
Waterlogging	Severe	These soils have a severe vulnerability to waterlogging during wet periods. This rating reflects poor drainage and slowly permeable subsoil.

General landuse versatility ratings

Note: The versatility ratings in the table below are indicative of the major limitations for semi-intensive to intensive land use. These ratings differ from those used in the past in that sustainability factors are incorporated in the classification. Refer to the Topoclimate district soil map or property soil map to determine which of the soil symbols listed below are applicable, then check the versatility ratings for that symbol in the appropriate table.

Dp U3 (Dipton undulating shallow)

Landuse	Versatility rating	Main limitation
Non-arable horticulture	Limited	Inadequate aeration during wet periods; risk of short-term waterlogging after heavy rain.
Arable	Limited	Inadequate aeration during wet periods; risk of short-term waterlogging after heavy rain
Intensive pasture	Limited	Risk of short-term waterlogging after heavy rain.
Forestry	Limited	Inadequate aeration during wet periods; vulnerability to sustained waterlogging.

Management practices that may improve soil versatility

- Careful management after heavy rain and wet periods will reduce the impact of short-term waterlogging. Intensive stocking, cultivation and heavy vehicular traffic should be minimised during these periods.
- Installation and maintenance of sub-surface mole and tile drains will reduce the risk of short-term waterlogging.