

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: **Omaui**

Overview

Omaui soils occupy about 600 ha on flat to hilly slopes in the Bluff/Greenhills area. They are variable soils formed into a complex of sand, loess, marine sediments and bouldery colluvium. Soils are typically poorly drained, with shallow to slightly deep rooting depth and moderately high plant available water. They have variable textures ranging from loamy silty to sandy loams. Present use is pastoral farming with sheep, beef cattle and deer. Climate is cool coastal with prevailing winds from the southerly quarter. Regular rain falls throughout the year and soils are rarely dry.

Physical properties

Omaui soils have moderate to moderately high plant available water and a shallow to slightly deep rooting depth that is restricted by a cemented subsoil layer and the presence of bedrock and/or gravels. The soils are poorly drained due to the slow subsoil permeability. Texture is variable, but commonly loamy silt in the upper horizons grading to sand. Topsoil clay content is <20%. Soils contain variable layers of stones in the subsoil.



Omaui profile

Fertility properties

Omaui soils have moderate to moderately high plant available water and a shallow to slightly deep rooting depth that is restricted by a cemented subsoil layer and the presence of bedrock and/or gravels. The soils are poorly drained due to the slow subsoil permeability. Texture is variable, but commonly loamy silt in the upper horizons grading to sand. Topsoil clay content is <20%. Soils contain variable layers of stones in the subsoil.

Associated and similar soils

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

- Orepuki: well drained, shallow soil formed onto bedrock within 45cm depth
- Waihoaka: moderately well drained podzolised soil, formed in deep loess
- Riverton: well drained soil, formed in deep young dune sands
- Invercargill: very poorly drained soils formed in deep peat

Some soils that have similar properties to Omaui soils are:

- No similar soils

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 the low clay content and P-retention values and poor drainage.
Nutrient leaching	slight	These soils have a slight vulnerability to leaching to groundwater. This rating reflects the poor drainage, moderately high water-holding capacity and slow permeability.
Topsoil erodibility by water	moderate	Due to the low clay content but moderate to high organic matter content, topsoil erodibility in these soils is moderate. 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 the poor drainage and slow permeability.

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.

OoR2 (Omaui rolling moderately deep); OoU2 (Omaui undulating moderately deep); OoR1 (Omaui rolling deep)

Versatility evaluation for soil OoR2, OoU2, OoR1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Limited	Inadequate aeration during wet periods; vulnerability to short-term waterlogging after heavy rain.
Arable	Limited	Inadequate aeration during wet periods; vulnerability to short-term waterlogging after heavy rain.
Intensive pasture	Limited	Vulnerability to short-term waterlogging after heavy rain.
Forestry	Limited	Inadequate aeration during wet periods; restricted rooting depth

OoU3 (Omaui undulating shallow): as above, but restricted rooting depth becomes a limitation for non-arable horticulture.

OoH2 (Omaui hilly moderately deep)

Versatility evaluation for soil OoH2		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Unsuitable	Hilly slopes
Arable	Unsuitable	Hilly slopes
Intensive pasture	Limited	Hilly slopes
Forestry	Limited	Inadequate aeration during wet periods; restricted rooting depth

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 use should be minimised during these periods.
- Installation and maintenance of subsurface mole and tile drains will reduce the risk of sustained aeration limitations and short-term waterlogging.

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