

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.

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## Topoclimate Southland Soil Information Sheet

No. **96**

### Soil name: **Taringatura**

#### Overview

Taringatura soils occupy about 2,200 ha on hill country in the mid Aparima and Oreti river valleys in central Southland. They also occur on adjacent hilly areas that were outside the Topoclimate survey area. They are formed into greywacke and tuffaceous greywacke bedrock and colluvium that has a thin cover layer of loess. Taringatura soils are well drained, with a moderate water holding capacity and shallow rooting depth that is limited by the gravelliness and bedrock that commonly occurs within 45cm depth. Present use is extensive pastoral grazing with sheep and beef cattle and commercial forestry. Climate is cool temperate with regular rainfall. Northerly slopes are likely to be seasonally dry.



*Taringatura profile*

#### Physical properties

Taringatura soils have a shallow rooting depth, restricted by the gravelliness and bedrock in the subsoil, and moderate available water. These soils are well drained, with good aeration and permeability throughout the soil. Textures are typically silt loam, with topsoil clay content of 20–30%. The soils are gravelly throughout, and typically have at least 35% gravel within 45cm depth. Bedrock also typically occurs within 45cm depth.

#### Fertility properties

Topsoil organic matter content is 3.5–6.5%, P-retention 25–50% and pH low to moderate (low–mid 5s). Cation exchange is moderate and base saturation low. Available calcium is low with magnesium and potassium levels moderate. Soil reserves of phosphorus and sulphur are low. Micronutrient levels are generally adequate although molybdenum responses in legumes can be expected.

#### Associated and similar soils

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

- Mossburn: moderately deep poorly drained soils with a fragipan; formed in mixed loess and colluvium
- Kaihiku: well drained, weakly leached Melanic soil found predominantly on north facing slopes; formed predominantly in gravelly colluvium

Some soils that have similar properties to Taringatura soils are:

- Wendon: moderately leached Brown soil with greywacke bedrock within 45cm depth
- Tyneholm: moderately leached Brown soil with tuffaceous greywacke bedrock within 45cm depth
- Mandeville: Melanic soil with tuffaceous greywacke bedrock within 45cm depth
- Kaiwera: strongly leached Brown soil, with P-retention >85% and pH values of <5.5 in the subsoil; occur in moister environments, such as shady slopes and/or higher rainfall

## 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
<b>Structural compaction</b>	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 good drainage, offset by the low organic matter, clay content, and P-retention.
<b>Nutrient leaching</b>	very severe	These soils have a very severe vulnerability to leaching to groundwater. This rating reflects the moderate water-holding capacity, with good drainage and permeability.
<b>Topsoil erodibility by water</b>	slight	Due to the low-moderate clay and organic matter levels, topsoil erodibility in these soils is slight. Erodibility is highly dependent on management, particularly when there is no vegetation cover.
<b>Organic matter loss</b>	moderate	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).
<b>Waterlogging</b>	slight	These soils have a slight vulnerability to waterlogging during wet periods. This rating reflects the good drainage. The hilly and steep phases will have nil vulnerability.

## 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.

### TnH3 (Taringatura hilly shallow) and TnS3 (Taringatura steep shallow)

#### Versatility evaluation for soil TnH3, TnS3

Landuse	Versatility rating	Main limitation
Non-arable horticulture	Unsuitable	Hilly and steep slopes
Arable	Unsuitable	Hilly and steep slopes
Intensive pasture	Limited	Hilly and steep slopes; restricted rooting depth
Forestry	Limited	Restricted rooting depth; steep slopes on steep phases

### TnU3 (Taringatura undulating shallow) and TnR3 (Taringatura rolling shallow)

#### Versatility evaluation for soil TnU3, TnR3

Landuse	Versatility rating	Main limitation
Non-arable horticulture	Limited	Vulnerability to leaching to groundwater; restricted rooting depth
Arable	Limited	Restricted rooting depth; vulnerability to leaching to groundwater; rolling slopes on rolling phases.
Intensive pasture	Limited	Vulnerability to leaching to groundwater; restricted rooting depth
Forestry	Limited	Restricted rooting depth.

### Management practices that may improve soil versatility

- Careful management of fertiliser nutrient applications to avoid leaching losses.
- Organic matter levels should be carefully maintained and enhanced
- Long-term intensive cultivation should be carefully managed to minimise structural degradation