

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.

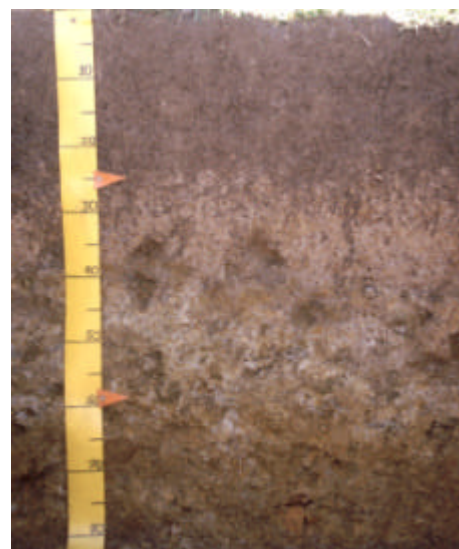
## Soil name: **Sobig**

### Overview

Sobig soils occupy about 3,500 ha on the high fans and terraces encircling the Takitimu Mountains. They are formed into moderately deep loess which overlies weathered tuffaceous greywacke gravels. They are poorly drained soils, with heavy silt loam texture, and gravel occurring below 45cm depth. These soils respond well to drainage, fertilisers and lime and are suited to pastoral grazing.

### 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 in the subsoil, with a topsoil clay content of 30–40%. Topsoils and upper subsoil are commonly slightly gravelly, with very gravelly horizons occurring between 45 and 90cm depth.



*Sobig profile*

### Fertility properties

Topsoil organic matter levels are about 11%; P-retention values 25–40%; pH values moderate. Cation exchange capacity, base saturation and calcium levels are moderate but magnesium and potassium availability is low. Natural levels of phosphorus and sulphur are also low. Micro-nutrient levels are generally adequate, although boron responses in brassicas and molybdenum responses in legumes can occur. Responses to lime, phosphate, sulphur and potassium can be expected.

### Associated and similar soils

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

- Wairaki: well drained soil on the same surface
- Mangapiri: poorly drained soil formed from mixed loess and mudstone; clayey textures
- Otanomomo: peat soils

Some soils that have similar properties to Sobig soils are:

- Dipton: shallow soil on intermediate to high terraces
- Glenure: silty textures throughout the profile
- Braxton: dominantly deep soils on intermediate to low terraces
- Caroline: has a cemented iron pan in the subsoil

## 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>	Moderate	These soils have a moderate vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects the poor drainage but moderate P-retention and heavy silt loam texture in the topsoil.
<b>Nutrient leaching</b>	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.
<b>Topsoil erodibility by water</b>	Slight	Due to the clay content, the topsoil erodibility of these soils is moderate. Erodibility is highly dependent on management, particularly when there is no vegetation cover.
<b>Organic matter loss</b>	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).
<b>Waterlogging</b>	Severe	These soils have a severe vulnerability to waterlogging during wet periods. This rating reflects the 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.

### SiU2 (Sobig undulating moderately deep) and SiU3 (Sobig undulating shallow)

#### Versatility evaluation for soil SiU2, SiU3

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.

### SiR2 (Sobig rolling moderately deep)

#### Versatility evaluation for soil SiR2

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; rolling slopes
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

- Installation and maintenance of subsurface mole and tile drainage. Stony subsoils may prevent mole installation in shallow soils.
- Organic matter levels should be carefully maintained and enhanced
- Careful management after heavy rain and wet periods will reduce the impact of short-term waterlogging. Intensive stocking, cultivation and vehicle traffic should be minimised during these periods.