

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.

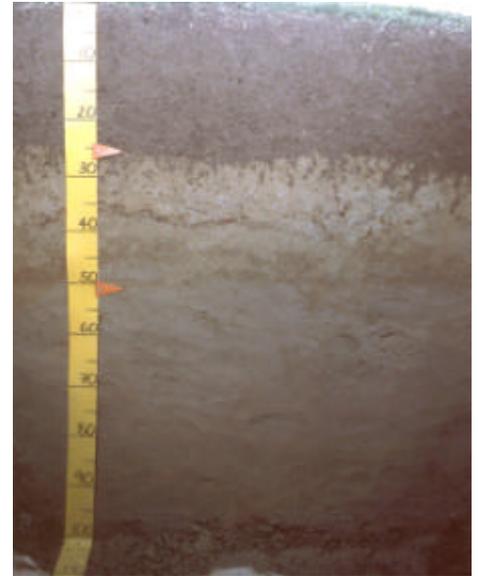
Soil name: Nokomai

Overview

Nokomai soils occupy about 900 ha on high terraces in the Garston district of northern Southland. They are formed into near-source wind-deposited loess from the Mataura flood plain. Nokomai soils are well drained, have a deep rooting depth, high water holding capacity, and loamy silt textures. Present use is pastoral farming with sheep and beef cattle grazing and occasional cropping. Climate is cold in the winter and summers are often dry, when soils can be moisture deficient.

Physical properties

Nokomai soils have a deep rooting depth and high plant available water, although the firm lower subsoil may limit root growth. The soils are moderately well drained but the compact subsoil is slowly permeable, and may cause short-term waterlogging after heavy rainfall. Texture is light silt loam in the topsoil, and loamy silt in the subsoil. The topsoil clay content is 20–25%. Nokomai soils are typically stone free, although the moderately deep phases have gravels between 45 and 90cm depth that may restrict rooting depth and reduce available water status to moderately high.



Nokomai profile

Fertility properties

Topsoil organic matter content is about 5.5%; P-retention <30% and topsoil pH low (low 5s). Subsoil pH levels are also low. Cation exchange and base saturation values are low, as are available calcium, magnesium and potassium levels. Soil reserves of phosphorus are also low. Micronutrient levels are generally adequate, although molybdenum responses in legumes and boron responses in brassicas can occur.

Associated and similar soils

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

- Arthurton: imperfectly drained deep Brown soil; has intergrade properties between Pallic and Brown soils; has dominantly silt loam textures
- Athol: poorly drained, deep Pallic soil
- Pukerangi: well drained, moderately deep fan soil
- Berwen: well drained, shallow fan soil

Some soils that have similar properties to Nokomai soils are:

- Otama: very similar, but has bands of accumulated clay in the subsoil
- Crookston: well drained deep Brown soil; has intergrade properties between Pallic and Brown soils; has dominantly silt loam textures
- Tuturau: well drained deep Brown soil; has intergrade properties between Pallic and Brown soils; has dominantly loamy silt textures.

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 P-retention, organic matter and clay content.
Nutrient leaching	moderate	These soils have a moderate vulnerability to leaching to groundwater. This rating reflects the high water holding capacity, offset by the moderately well drained classification.
Topsoil erodibility by water	moderate	Due to the low organic matter and clay 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	slight	These soils have a slight vulnerability to waterlogging during wet periods. This rating reflects the moderately well drained classification.

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.

NoU1 (Nokomai undulating deep)

NoU2 (Nokomai undulating moderately deep)

Versatility evaluation for soil NoU1, NoU2		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Vulnerability of topsoil to structural degradation by cultivation and compaction; risk of short-term water logging after heavy rain.
Arable	Moderate	Vulnerability of topsoil to structural degradation by cultivation and compaction; risk of short-term water logging after heavy rain.
Intensive pasture	Moderate	Vulnerability of topsoil to structural degradation by cultivation and compaction; risk of short-term water logging after heavy rain.
Forestry	Moderate	Vulnerability of topsoil to structural degradation by cultivation and compaction; vulnerability of the topsoil to erosion by water

Management practices that may improve soil versatility

- Careful management after heavy rain and wet periods will reduce the impact of short-term water logging and structural compaction. Intensive stocking, cultivation and heavy vehicular traffic use should be minimised during these periods.
- Over-cultivation of dry soils may allow erosion by wind and water.