

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: Ashers

Overview

Ashers soils cover 550 ha on alluvial and old marine terraces on the coastal area of the Southland plain south east of Invercargill. They are formed into loess that has been derived from greywacke and schist rocks. Ashers soils are well to imperfectly drained, with high available water capacity and silty textures. The soils show strong leaching, with high P-retention and are strongly acidic. The podzol features are likely to be less evident in areas that have significant development inputs. They are used for pastoral farming with sheep, dairy and deer. The climate is cool temperate with reliable summer rain.



Ashers profile

Physical properties

Ashers soil have a deep rooting depth and high plant available water, although the subsoil acidity and aluminium toxicity may be limiting (particularly on less developed sites). Soils are well to imperfectly drained, with slowly permeable subsoils that may cause short-term waterlogging after heavy rain. Textures are silt loams throughout the profile, with topsoil clay content of 20-25%. No stones or gravels occur in these soils.

Fertility properties

Topsoil organic matter levels range from 16-25%. P-retention values of 60-70% increase in the subsoil. Soil pH values are low (often below 5.0) and tend to decrease in the subsoil. Cation exchange values are high, reflecting high organic matter levels, and base saturation low. Available cations are low. Carbon nitrogen ratios are high, reflecting the low biological activity of the soil. Aluminium levels are high in the subsoil, indicating possible toxicity to plants. Micronutrient levels are generally adequate. In some sites the topsoil acidity and available cations have improved due to significant development inputs.

Associated and similar soils

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

- Mokotua: imperfectly drained Brown soil
- Tisbury: occurs on same landforms but are poorly drained
- Waikiwi: well drained Brown soil

Some soils that have similar properties to Ashers soils are:

- Waihoaka: podzolised soil forming into loess in hilly land of the southern coast, from Bluff to Tuatapere
- Kapuka: podzolised moderately deep to shallow soil on marine terraces
- Tiwai: podzolised shallow soil on marine terraces with thin iron pans, and cemented underlying gravels

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	minimal	These soils have a minimal vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects the high organic matter and P-retention levels.
Nutrient leaching	slight	These soils have a slight vulnerability to leaching to groundwater. This rating reflects the high water-holding capacity and slow subsoil permeability.
Topsoil erodibility by water	slight	Due to the topsoil organic matter content, topsoil erodibility in 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	moderate	These soils have a moderate vulnerability to waterlogging during wet periods. This rating reflects the imperfect drainage and slow subsoil 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.

AsU1 (Ashers undulating deep)

Versatility evaluation for soil AsU1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Inadequate aeration during wet periods; vulnerability to sustained waterlogging.
Arable	Moderate	Inadequate aeration during wet periods; vulnerability to sustained waterlogging
Intensive pasture	Moderate	Inadequate aeration during wet periods; subsoil acidity
Forestry	Moderate	Vulnerability to sustained waterlogging

AsR1 (Ashers rolling deep)

Versatility evaluation for soil AsR1		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Inadequate aeration during wet periods; vulnerability to sustained waterlogging.
Arable	Limited	Rolling slopes
Intensive pasture	Moderate	Inadequate aeration during wet periods; subsoil acidity
Forestry	Moderate	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 subsurface mole and tile drains will reduce the risk of short-term waterlogging.