

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: **Winton**

Overview

Winton soils occupy about 1,900 ha on the slowly accumulating floodplains and low terraces of the Oreti River south of Benmore in central Southland. They are formed into moderately deep to deep fine alluvium over gravel. Soils are well drained, with deep to moderately deep rooting depth, high plant available water, and have silty textures. Present use is pastoral farming with sheep, deer and dairy cows and some cropping. Climate is cool temperate with regular rain. Soils seldom dry out.

Physical properties

Winton soils have a deep rooting depth, with moderately deep soils having a moderately deep rooting depth. Soils have moderately high to high plant available water. Aeration and permeability are moderate throughout the profile. Texture is silt loam with topsoil clay content 25–35%. Deeper soils are stoneless with moderately deep soil having gravel below 45cm.



Winton profile

Fertility properties

Topsoil organic matter levels are 5–6%; P-retention 20–30% and topsoil pH moderate (high 5s). Subsoil pH values can be up to pH 7. Cation exchange levels are moderate and base saturation values high. Topsoil available calcium and magnesium levels are moderate to high with potassium levels low. Soil reserve phosphorus levels are low. Micronutrient levels are generally adequate.

Associated and similar soils

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

- Riversdale: well drained, shallow Recent soils with gravel at less than 45cm depth; occur on the floodplain
- Gore: well drained, shallow Brown soils with gravel at less than 45cm depth; occur on low terraces
- Tomoporakau: poorly drained deep soil, due to water perching on a dense subsoil horizon
- Makarewa: poorly drained deep clayey soil, due to a high groundwater table

Some soils that have similar properties to Winton soils are:

- Ardlussa: occur on similar surfaces in northern Southland, and are typically more leached, with intergrade properties between Brown and Pallic soils
- Northope: imperfectly drained equivalent of the Winton soil

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

WnU1 (Winton undulating deep)

WnU2 (Winton undulating moderately deep)

Versatility evaluation for soil WnU1, WnU2		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Moderate	Potential flood risk; subsoil root penetrability.
Arable	Moderate	Vulnerability to topsoil structural degradation by cultivation and compaction; subsoil root penetrability.
Intensive pasture	Moderate	Vulnerability to topsoil degradation by cultivation and compaction; vulnerability to leaching to groundwater.
Forestry	Limited	Potential flood risk.

Management practices that may improve soil versatility

- Longterm flood protection.
- 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.
- Management practices that minimise leaching losses