

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.

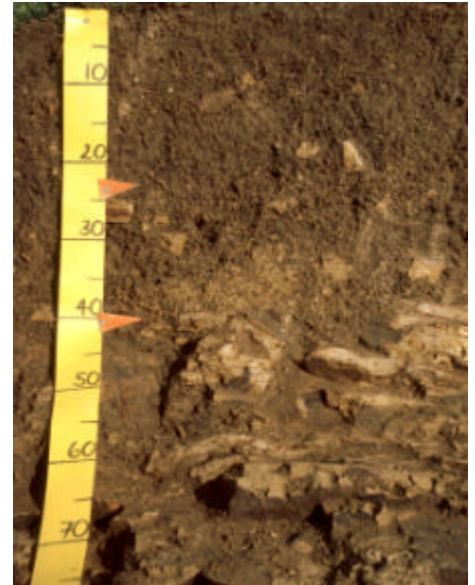
Soil name: **Tyneholm**

Overview

Tyneholm soils occupy about 1,000 ha on rolling to steep hills below 300m altitude, east of the Maitava river from Maitava to Waimahaka. They are formed into a thin layer of loess overlying tuffaceous greywacke bedrock. Tyneholm soils are well drained, with a shallow rooting depth and moderate water holding capacity that is limited by the gravelliness and bedrock that commonly occurs within 45cm depth. Present use is pastoral farming with sheep and beef cattle. Climate is cool temperate with regular rain throughout the year.

Physical properties

Tyneholm 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 20–25%. The soils are gravelly throughout, and typically have at least 35% gravel within 45cm depth. Bedrock also typically occurs within 45cm depth.



Tyneholm profile

Fertility properties

Topsoil organic matter levels are 9–15%; P-retention 45–55% and pH moderate (high 5s). Cation exchange and base saturation levels are moderate. Available calcium and magnesium and potassium levels are moderate. Soil reserve phosphorus levels are low. Micronutrient levels are generally adequate.

Associated and similar soils

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

- Tokanui: well drained, deep Brown soil, with no bedrock within 90cm depth.
- Craigdale: well drained, moderately deep Brown soil, with bedrock between 45 and 90cm depth.
- Chaslans: imperfectly drained, deep Brown soil, with no bedrock within 90cm depth.

Some soils that have similar properties to Tyneholm soils are:

- Wendon: moderately leached Brown soil with greywacke bedrock within 45cm depth
- Mandeville: weakly leached Melanic soil with tuffaceous greywacke bedrock within 45cm depth
- Taringatura: moderately leached Brown soil with greywacke and tuffaceous greywacke bedrock and colluvium within 45cm depth; occurs on the Taringatura Mountains
- Pukerau: strongly leached Allophanic soil that is the upland equivalent of the Tyneholm soil; occurs above 300m altitude.

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	slight	These soils have a slight vulnerability to structural degradation by long-term cultivation, or compaction by heavy stocking and vehicles. This rating reflects the well drained nature, with moderate clay and organic matter content.
Nutrient leaching	very severe	These soils have a very severe vulnerability to leaching to groundwater. This rating reflects the well drained nature, moderate water-holding capacity and permeability.
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	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).
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.

TyH3 (Tyneholm hilly shallow)

Versatility evaluation for soil TyH3		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Unsuitable	Hilly slopes
Arable	Unsuitable	Hilly slopes
Intensive pasture	Limited	Hilly slopes; restricted rooting depth
Forestry	Unsuitable	Shallow rock depth

TyU3 (Tyneholm undulating shallow)

Versatility evaluation for soil TyU3		
Landuse	Versatility rating	Main limitation
Non-arable horticulture	Limited	Vulnerability to leaching to groundwater; restricted rooting depth
Arable	Limited	Restricted rooting depth
Intensive pasture	Limited	Vulnerability to leaching to groundwater; restricted rooting depth
Forestry	Unsuitable	Shallow rock depth

TyR3 (Tyneholm rolling shallow): as above, but for arable landuse rolling slopes are also a limitation

TyS3 (Tyneholm steep shallow): unsuitable for non-arable horticulture and arable landuse due to hilly slopes; limited versatility for intensive pasture due to steep slopes and restricted rooting depth; unsuitable for forestry due to shallow rock depth.

Management practices that may improve soil versatility

- Careful management of fertiliser application to minimise leaching losses.