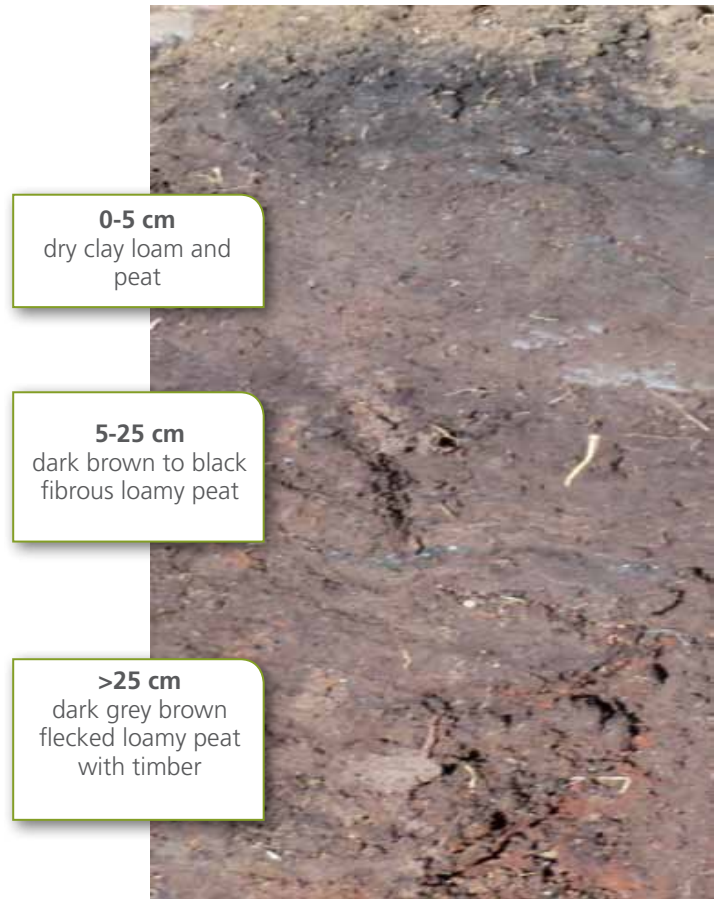


Organic peat / alluvium soils

Soil types in this group

- Otakairangi loamy peat – ORd
- Otakairangi peaty clay loam - OR
- Otonga loamy peat - OGd
- Otonga peaty clay loam - OG
- Otonga peaty silt loam - OGV

This fact sheet uses NZ Soil Bureau map series soil type names and abbreviations.



0-5 cm
dry clay loam and peat

5-25 cm
dark brown to black fibrous loamy peat

>25 cm
dark grey brown flecked loamy peat with timber

Otakairangi peaty clay loam (OR) soil profile

Features of organic peat / alluvium soils

- These soils have developed in wetland basins on floodplains
- They are part of the Otonga soil suite
- These soils are classified according to the depth of peat and proportion of river-deposited sediments (alluvium), which vary widely
- Under anaerobic and very acidic conditions, partially decomposed vegetation accumulates and forms peat
- Careful management of soil water tables is crucial to avoid over draining and forming an impermeable dust mulch

Structure and drainage management

Issues	Management tips
While these soils can be very productive there are risks involved with cultivation	Seek expert advice about cultivation management
Over-cultivation of peat and alluvium soils, particularly when dry, causes oxidation and shrinkage	Over-cultivation must be avoided; pasture may be a better option than cropping for many sites
Shrinkage of peat leads to an extremely uneven surface, disturbed drainage patterns and exposed logs	Avoid over-grazing of pasture and maintain dense pasture cover to reduce drying out of topsoil
When too dry, peat can oxidise and degrade, creating a 30+cm dusty surface crust that repels water and on which no vegetation (native or exotic) will survive	Avoid over-draining these soils; don't deepen existing drains and maintain summer water tables
Due to the high winter water tables these soils can be prone to pugging	Careful winter management is required to avoid pugging

Erosion control

Erosion risks	Soil type	Specific problems	Possible solutions
Gully erosion	All these soils	Upper reaches of valleys are at slight to moderate risk of gully erosion Steeper gradients are more at risk	Control eroding areas with paired willow planting Shrubby pussy willows tolerate acidic soils better than other species Retain upper valley swamps in steep country as sediment and nutrient traps to mitigate erosion effects
Wind erosion	All these soils	Over-cultivation in dry conditions can increase wind erosion	Cultivate while soil retains moisture to reduce the likelihood of dusty conditions



Otonga peat soils, Apotu

Nutrient management

Soil type	Nutrient status	Management strategies
All peat and alluvium soils	Cultivation, along with heavy dressings of nitrogen, can accelerate peat oxidation and shrinking	Careful use of nitrogen is necessary, avoid heavy dressings Including clovers into pasture can be useful
All peat and alluvium soils	Because of the high water table, excess applied nutrients can be easily leached into waterways	Seek advice from your fertiliser consultant for appropriate timing and nutrient requirements
All peat and alluvium soils	Extremely low pH restricts plant growth	Lime is essential. Seek advice from your fertiliser consultant for nutrient requirements
All peat and alluvium soils	These organic soils can be deficient in trace elements needed for plant growth	Trace elements may need to be supplemented. Seek expert advice for soil testing and fertiliser recommendations

Drainage classes

Soil symbol	Full name	Drainage class
OTONGA SUITE Basement rock: peat and river alluvium		
OG	Otonga peaty clay loam	1 - Poorly drained
OGd	Otonga loamy peat	1 - Poorly drained
OGv	Otonga peaty silt loam	1 - Poorly drained
OR	Otakairangi peaty clay loam	0 - Very poorly drained
ORd	Otakairangi loamy peat	0 - Very poorly drained

Northland soil factsheet series

- Northland's climate, topography, historic vegetation and mixed geology have combined to form a complex pattern of soils across the region. There are over 320 soil types in Northland. Other regions in New Zealand average only 20 soil types per region.
- The information in this fact sheet is based on a 1:50,000 mapping scale. Therefore, it is not specific to individual farms or properties. However, it may help you to understand general features and management options for recent alluvial soils.
- Knowing your soils' capabilities and limitations is the key to sustainable production in Northland. Northland Regional Council (NRC) land management advisors are available to work with landowners to provide free soil conservation advice, plans and maps specific to your property.
- Regular soil tests are recommended. If you are concerned about your soil structure or health, the Visual Soil Assessment test could be useful. Contact the land management advisors at Northland Regional Council for more information.
- Further background information about the processes that have formed these soils can be found here: www.nrc.govt.nz/soilfactsheets

Contact a land management advisor on
0800 002 004 or visit www.nrc.govt.nz/land