

Ngā Mahi a Wai Māori

Northland Water Storage and Use Project






Mid-North Horticultural Soils

Soils suitable for horticulture in the Mid-North Command Area have developed on basaltic lava flows, basaltic scoria, ash and lava cones, debris fan deposits from the collapsed sides of scoria cones, and alluvium from both sedimentary and volcanic rock catchments

With access to water for irrigation, a much greater range of vegetable, field, vine and tree crops could be grown on the mid-north soils.

There are **four main groups** of soils within the Mid-North Command Area on which some form of commercial horticulture could be practiced providing there is access to irrigation water:

Profile	Description	Suitability
	<p>Deep, free draining, volcanic</p> <p>The 'youngest' soils in this group, Kiripaka bouldery silt loam (KB), Ōhaeawai bouldery silt loam (and Maunu silt loam (MU)), while stony/bouldery, are free-draining and can be cultivated year-round. Shallow-rooted plants on these soils will suffer a water deficit for several months each year.</p>	<p>These soils are well suited to tree crops that enjoy a free-draining soil year-round, like avocado and tamarillo. They can be cultivated for vegetables and field crops, and vehicles/equipment can have access at any time of the year. The presence of stone and volcanic boulders can hinder cultivation of vegetables on some sites.</p>
	<p>Shallower and/or heavier, less free-draining, moderately leached volcanic</p> <p>Older Waimate North clay loam (WM), Whakapai clay loam (WP), Kiripaka bouldery silt loam with compact subsoil (KBe) and Kerikeri friable clay (KE). These soils are not as free-draining as soils above, and are commensurately less well suited to tree crops such as avocado and tamarillo.</p>	<p>These soils are well suited to vegetable and arable crops, and to kiwifruit, citrus, persimmon and the like. Having less or no stone, these soils can be cultivated, or crops can be harvested by machinery throughout most of the year.</p>
	<p>Moderately to strongly leached Brown and Red Loams</p> <p>Similar landform to Group B but are more mature soils, have a thinner topsoil, denser subsoil and lower natural fertility. This group includes Whakapai friable clay (WPe), Waiotu friable clay (YO), Ruatangata friable clay (RT) and Apotu friable clay (AT).</p>	<p>These more leached soils have a denser clay subsoil that makes them less free-draining and not suited to cultivation during the wetter parts of the year. Their easy, undulating to gently rolling landform, makes them suitable for shorter season field crops.</p>



Strongly to very strongly leached Brown Loams, 'ironstone soils'

Soils referred to locally as 'ironstone soils', laterites with a shallow friable topsoil over a gravelly accumulation of iron and aluminium granules. Included are **Pungaere gravelly friable clay (PG)**, **Otaha clay (OD)**, **Otaha gravelly clay loam (ODg)**, **Ōkaihau gravelly friable clay (OK)**.

While some eroded sites will have little remaining topsoil, areas with topsoils are suited to shallow-rooted crops, including kiwifruit and citrus, and to occasional field crops, often part of a pasture renewal programme on pastoral farms.

