

Landscape Units of Cooktown



Summary of results including Mapping & Fact Sheets

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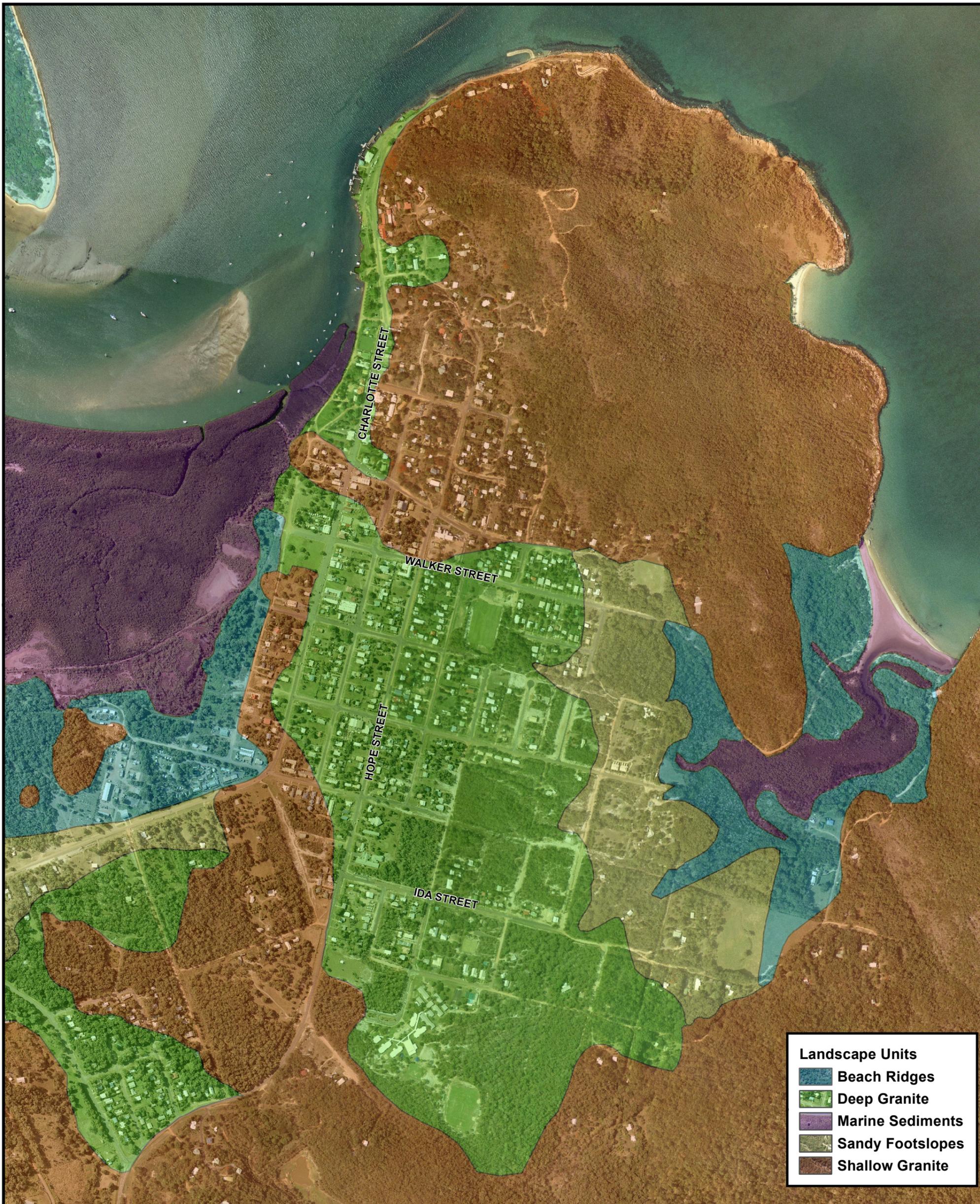
Dr Wendy Seabrook
Hilltop Farm



Cook Shire Council



Australian Government

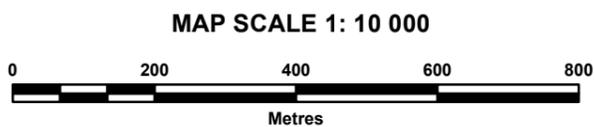


Landscape Units

- Beach Ridges
- Deep Granite
- Marine Sediments
- Sandy Footslopes
- Shallow Granite



REGION: NORTH
 LOCALITY OF COOKTOWN
 LOCAL GOVERNMENT: COOK SHIRE



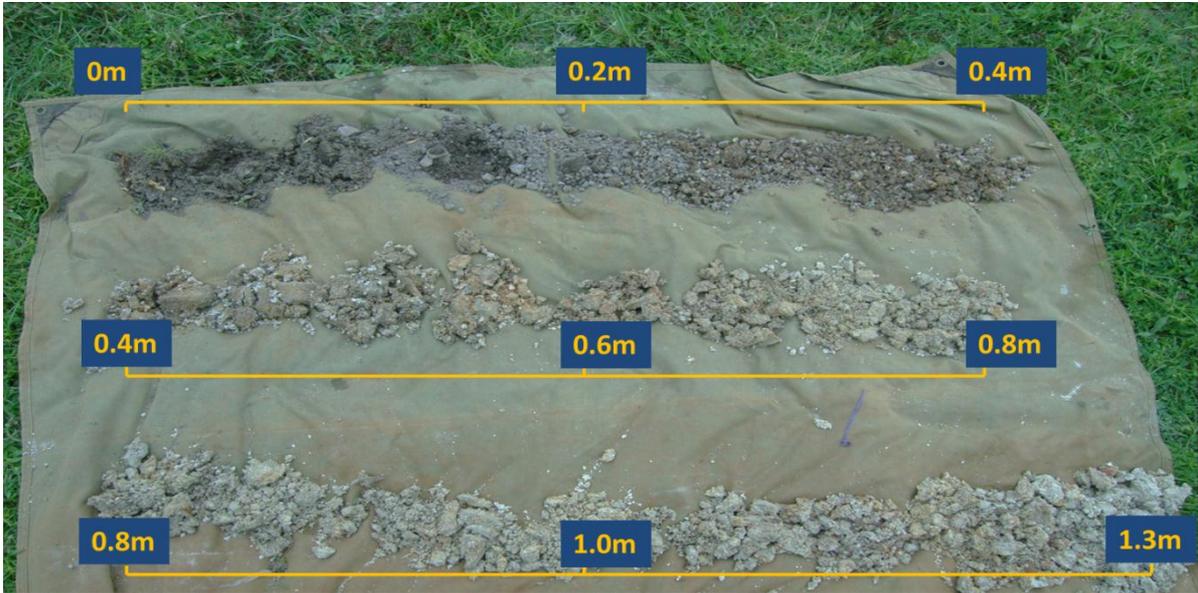
LANDSCAPE UNITS OF COOKTOWN

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Produced by GIS Unit, DNRM, Mareeba.
 Map Prepared by P.Bannink
 Date: 28 May 2013
 File Reference: j5062

PROJECTION: Universal Transverse Mercator: Zone 54
 HORIZONTAL DATUM: Geocentric Datum of Australia 1994 (GDA94)

Deep Granite Soil



General description:

A deep soil formed on granite with moderately-thick dark loams overlying yellow and orange mottled sandy clays. Typical in the residential areas of Cooktown, this soil is found on gently inclined ridges and slopes. Some gravels may be present in the topsoil.

Soil limitations:

- Low fertility
- Moderate water-holding capacity
- Slight to moderately acidic (pH 5.4 – 6.6)
- Some locations are shallower (~0.7m) overlying dense gravels or rock.
- Clayey subsoil with imperfect drainage

Productivity recommendations:

To get the most out of this soil, improve its body by incorporating organic matter, composts and manure. Increasing organic matter is important for improving the water holding capacity and fertility.

A thick application of mulch will help reduce evaporation and water stress during hot, dry and windy conditions. Mulching is particularly

important when growing shallow rooted plants and vegetables.

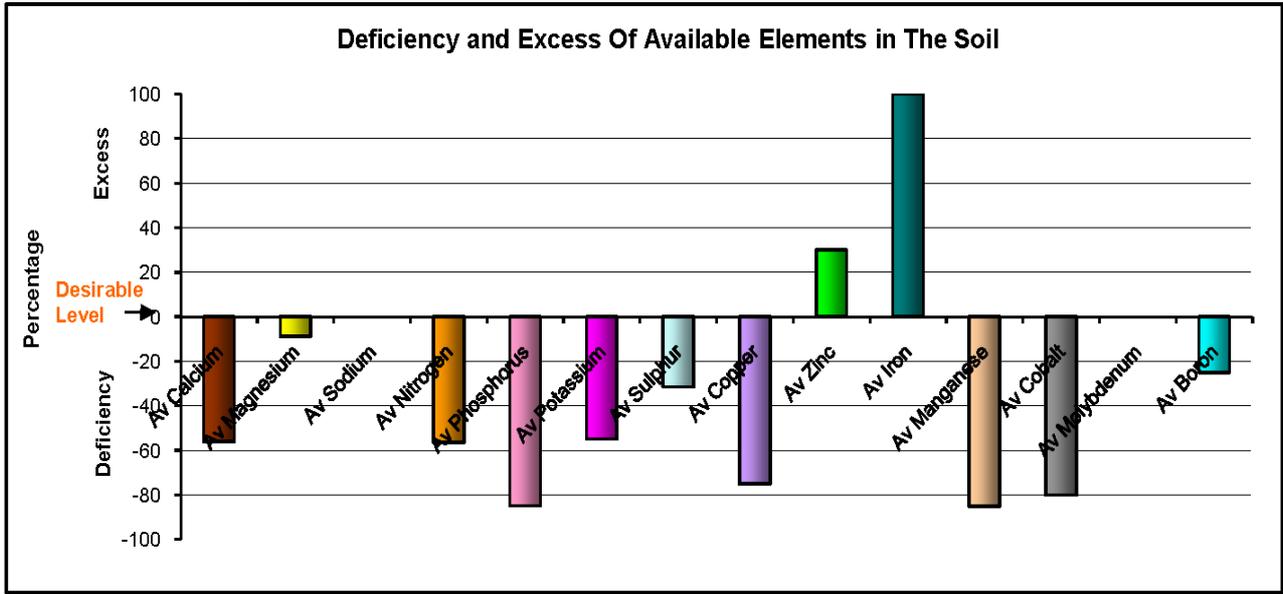
Due to the clayey subsoil, mounding may be necessary to improve drainage and rooting depth for sensitive fruit trees (e.g. avocado).

These acidic soils will likely benefit from pH adjustment to improve nutrient availability. To check whether pH adjustment is required, purchase a soil pH test kit from your local nursery or hardware store. These kits also include easy-to-follow instructions for increasing pH using agricultural lime or dolomite. In most circumstances pH should be increased to between 6.5 and 7.

Once the body, depth and pH of soil have been improved, regular, light, quantities of organic or slow-release, broad-spectrum fertilisers with trace elements are likely to be required to maintain soil fertility in productive areas.

To avoid spending money on unnecessary fertiliser we strongly recommend having your soil professionally tested. See overleaf for an example of chemical analysis from a deep granite soil.

Source: SWEP Analytical Laboratories File Number 130593785, Sample ID C7 0-10 cm

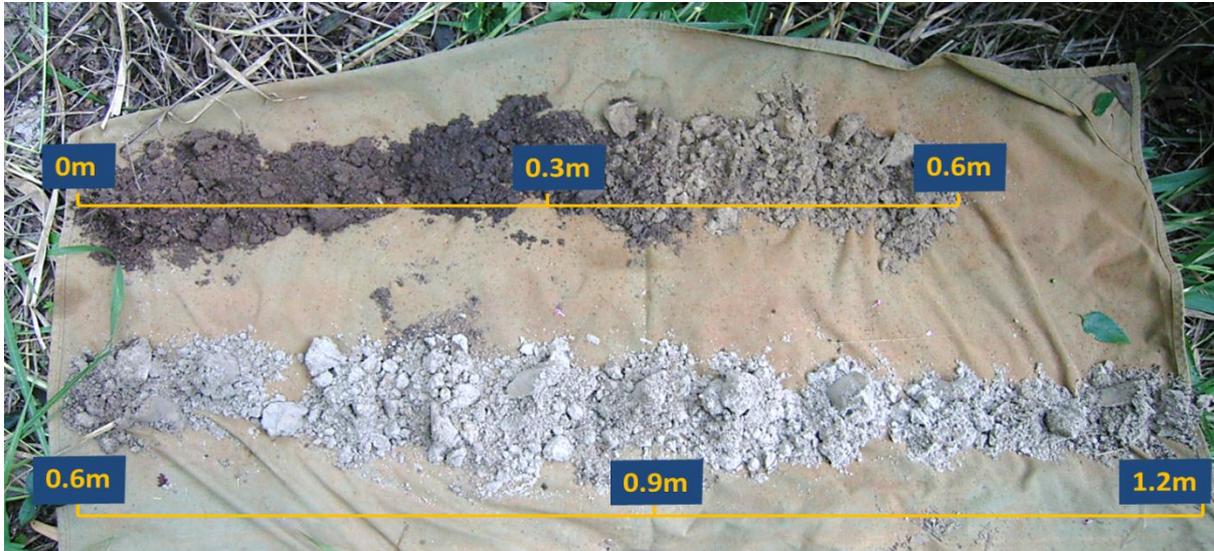


Deep Granite Soil Recommendations*

Soil Conditioner Requirement	grams/m ²		
Lime	96		
Dolomite	23		
Fertilizer Requirement (g/m ²)			
Macronutrient	Tropical Fruit	Banana	Lettuce
Nitrogen	4	29	14
Phosphorus	2	7	6
Potassium	0	79	10
Sulphur	2	2	2
Micronutrient			
Copper	0.075	0.113	0.113
Zinc	0	0	0
Cobalt	0.003	0.003	0.003
Molybdenum	0	0	0
Iron	0	0	0
Manganese	0.35	0.35	0.35
Boron	0.03	0.045	0.03

**Disclaimer – This information sheet “Deep Granite Soil” is designed to be used by property managers and domestic gardeners to increase non-commercial food production in residential areas. This soil grouping is based on 6 described sites, several observations and one sample submitted for laboratory analysis. Information contained in the sheet is general in nature and may not be accurate or suitable in all circumstances. The information should be considered as advice only and does not replace the need for site specific testing and analysis, particularly for repeated use of soil conditioners and chemical fertilisers.*

Beach Ridge Soil



General description

A deep sandy soil characterised by moderately-thick dark loamy topsoil overlying grey fine sandy subsoil. This soil is formed on old beach deposits found on low lying areas typically landward of coastal swampy margins.

Soil limitations:

- Poor drainage
- Moderate water holding capacity
- Moderately acidic (pH 5.0 – 5.6)
- Low fertility

Productivity recommendations:

The poorly drained nature of this soil will limit plants that are sensitive to waterlogging. Particular care will need to be taken to ensure that plants and fruit trees have satisfactory drainage over the wet season.

To get the most out of these poorly drained soils, mound topsoil to increase soil depth and plant on top of the mound to improve drainage and rooting depth.

Incorporation of composts and organic material will reduce watering requirements

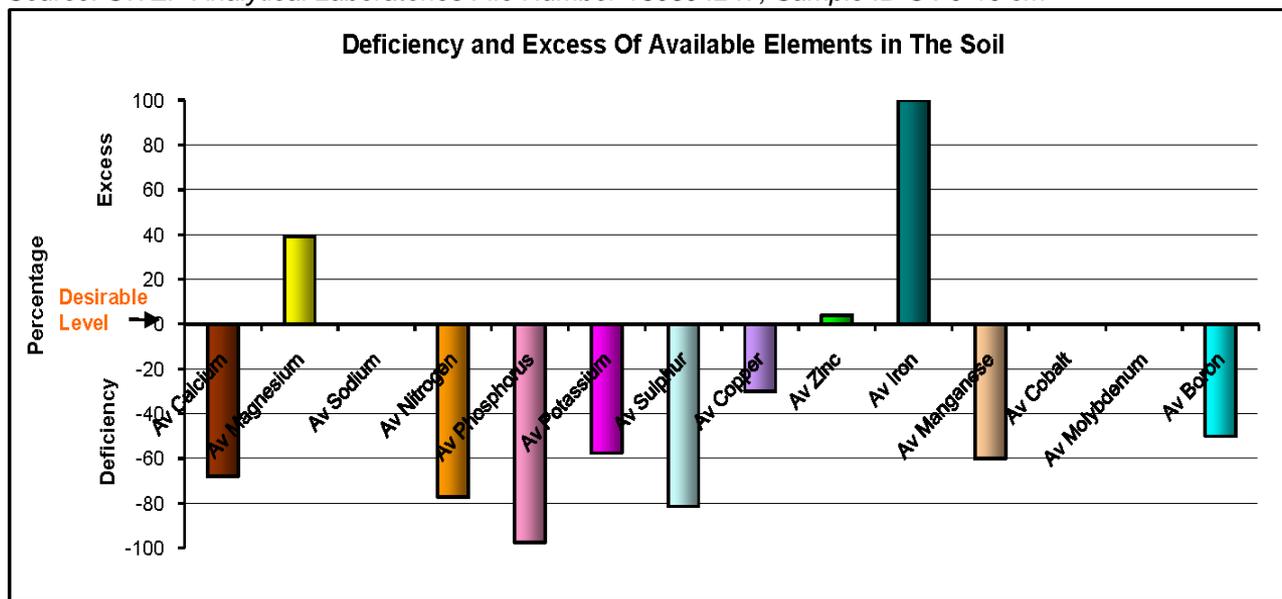
and significantly reduce reliance on inorganic fertilisers. A thick application of mulch will help reduce evaporation and water stress during hot, dry and windy conditions. Mulching is particularly important when growing shallow rooted plants and vegetables.

This moderately acidic soil is likely to require pH adjustment to improve nutrient availability. To check whether pH adjustment is needed, purchase a soil pH test kit from your local nursery or hardware store. These kits also include easy to use instructions for increasing pH using agricultural lime. In most circumstances pH should be increased to between 6.5 and 7.

Once the body, depth and pH of soil have been improved, regular, light, quantities of organic or slow-release, broad-spectrum fertilisers with trace elements may be required to maintain soil fertility in productive areas.

To avoid spending money on unnecessary fertiliser we strongly recommend having your soil professionally tested. See overleaf for an example of chemical analysis from a beach ridge soil.

Source: SWEP Analytical Laboratories File Number 130594247, Sample ID C4 0-10 cm



Beach Ridge Soil Recommendations*			
Soil Conditioner Requirement	grams/m ²		
Gypsum	59		
Lime	128		
Fertiliser Requirement (g/m ²)			
Macronutrient	Tropical Fruit	Banana	Lettuce
Nitrogen	5	31	16
Phosphorus	2	8	7
Potassium	0	80	11
Sulphur	0	0	0
Micronutrient			
Copper	0.075	0.113	0.113
Zinc	0	0	0
Cobalt	0	0	0
Molybdenum	0	0	0
Iron	0	0	0
Manganese	0.25	0.25	0.25
Boron	0.03	0.045	0.03

**Disclaimer – This information sheet “Beach Ridge Soil” is designed to be used by property managers and domestic gardeners to increase non-commercial food production in residential areas. This soil grouping is based on 1 described site, several observations and one sample submitted for laboratory analysis. Information contained in the sheet is general in nature and may not be accurate or suitable in all circumstances. The information should be considered as advice only and does not replace the need for site specific testing and analysis particularly for repeated use of soil conditioners and chemical fertiliser.*

Shallow Granite Soil



General description:

Very shallow, dark, sandy loam soils found on steeper rocky ridges and slopes. Granite boulders and outcroppings are common.

Soil limitations:

- Very shallow (topsoil depth <0.2m)
- Very rocky throughout
- Very low water holding capacity
- Strongly acidic (pH <5)
- Low fertility

Productivity recommendations:

The shallow and rocky nature of this soil limits plant selection to those that are tolerant of prolonged dry conditions and produce above ground harvests. For all other uses, consideration should be given to raised beds or “No Dig” style gardens.

To get the most out of these shallow rocky soils, increase depth through mounding or importing topsoil.

Incorporation of composts and organic material will reduce watering requirements

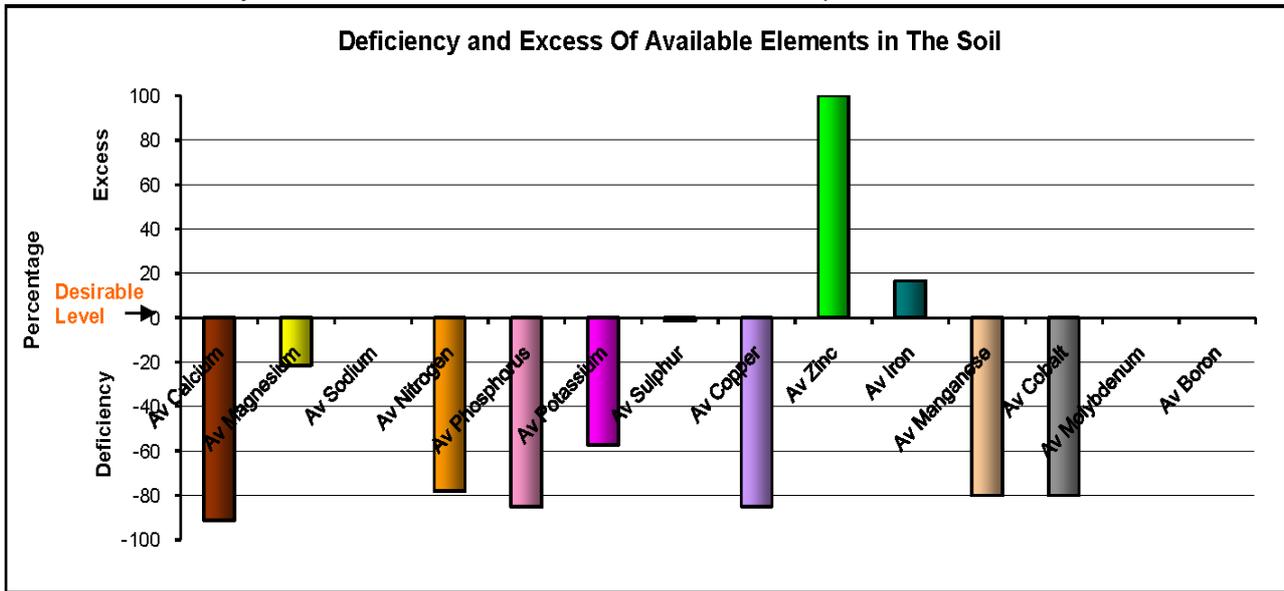
and significantly reduce reliance on inorganic fertilisers. A thick application of mulch will help reduce evaporation and water stress during hot, dry and windy conditions.

Due to the strong acidic nature of these soils, most will require pH adjustment to improve nutrient availability. To check whether pH adjustment is required, purchase a soil pH test kit from your local nursery or hardware store. These kits also include easy-to-follow instructions for increasing pH using agricultural lime or dolomite. In most circumstances pH should be increased to between 6.5 and 7.

Once the body, depth and pH of soil have been improved, regular, light, quantities of organic or slow-release, broad-spectrum fertilisers with trace elements may be required to maintain soil fertility in productive areas.

To avoid spending money on unnecessary fertiliser we strongly recommend having your soil professionally tested. See overleaf for an example of chemical analysis from a shallow granite soil.

Source: SWEF Analytical Laboratories File Number 130593784. Sample ID C5 0-10cm



Shallow Granite Soil Recommendations*			
Soil Conditioner Requirement	grams/m ²		
Lime	248		
Dolomite	44		
Fertiliser Requirement (g/m ²)			
Macronutrient	Tropical Fruit	Banana	Lettuce
Nitrogen	5	30	16
Phosphorus	2	7	6
Potassium	0	82	12
Sulphur	2	2	2
Micronutrient			
Copper	0.075	0.113	0.113
Zinc	0	0	0
Cobalt	0.003	0.003	0.003
Molybdenum	0	0	0
Iron	0	0	0
Manganese	0.35	0.35	0.35
Boron	0	0.045	0

**Disclaimer – This information sheet “Shallow Granite Soil” is designed to be used by property managers and domestic gardeners to increase non-commercial food production in residential areas. This soil grouping is based on 3 described sites, several observations and one sample submitted for laboratory analysis. Information contained in the sheet is general in nature and may not be accurate or suitable in all circumstances. The information should be considered as advice only and does not replace the need for site specific testing and analysis, particularly for repeated use of soil conditioners and chemical fertilisers.*

Sandy Footslope Soil



General description:

A very deep sandy soil found on gently inclined footslopes. This soil is characterised by moderately thick dark-grey sandy topsoil overlying yellowish or brownish pale coarse sands. Light grey sandy clay occurs at depth.

Soil limitations:

- Low water-holding capacity
- Very high permeability
- Low fertility
- Strongly acidic (pH 4.9)
- Poorly drained (low-lying areas only)

Productivity recommendations:

In gently sloping areas, these sandy, highly permeable soils limit plant selection to those that are deep rooted and tolerant to prolonged dry conditions.

To get the most out of these very sandy soils, increase body by incorporating large quantities of organic matter, composts and manures.

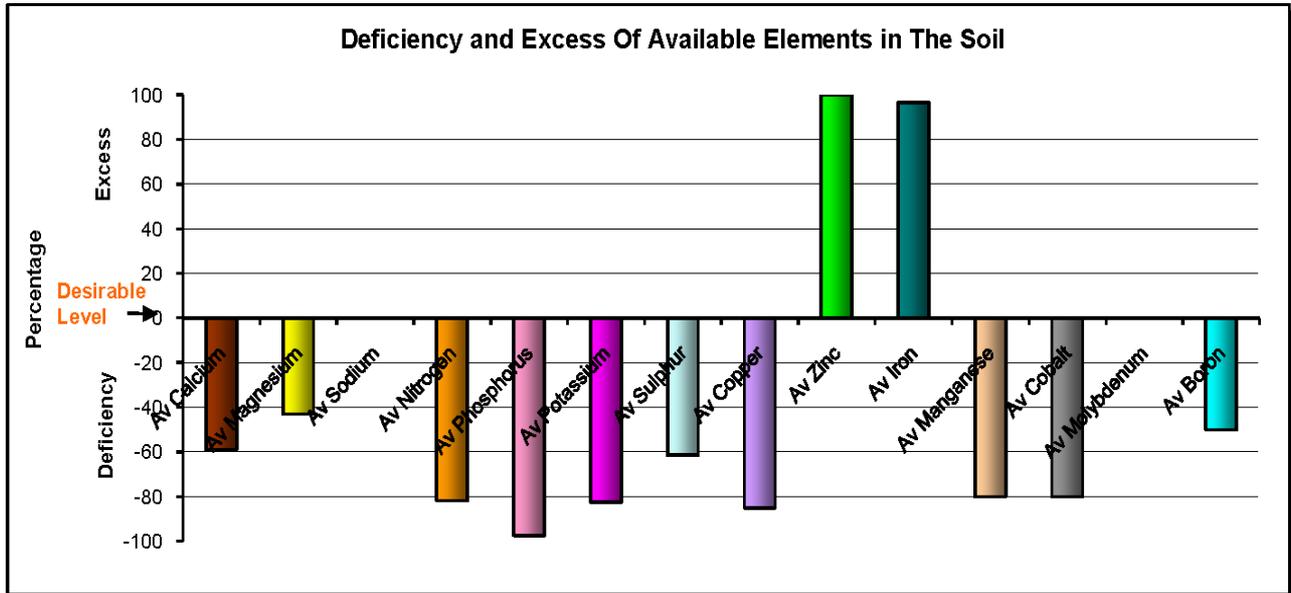
Shallow rooted vegetables will require frequent watering and thick applications of mulch to reduce evaporation and water stress during hot, dry and windy conditions.

Due to their strongly acid nature, most sandy footslope soils will require pH adjustment to improve nutrient availability. To check whether pH adjustment is required, purchase a soil pH test kit from your local nursery or hardware store. These kits also include easy-to-follow instructions for increasing pH using agricultural lime or dolomite. In most circumstances pH should be increased to between 6.5 and 7.

Once the body, depth and pH of soil have been improved, regular, light, quantities of organic or slow-release, broad-spectrum fertilisers with trace elements are likely to be required to maintain soil fertility in productive areas.

To avoid spending money on unnecessary fertiliser we strongly recommend having your soil professionally tested. See overleaf for an example of chemical analysis from a sandy footslope soil.

Source: SWEF Analytical Laboratories File Number 130593787, Sample ID C11 0-10 cm



Sandy Footslope Soil Recommendations*			
Soil Conditioner Requirement	grams/m ²		
Lime	46		
Dolomite	24		
Fertiliser Requirement (g/m ²)			
Macronutrient	Tropical Fruit	Banana	Lettuce
Nitrogen	5	31	16
Phosphorus	2	8	7
Potassium	4	82	7
Sulphur	2	2	2
Micronutrient			
Copper	0.075	0.113	0.113
Zinc	0	0	0
Cobalt	0.003	0.003	0.003
Molybdenum	0	0	0
Iron	0	0	0
Manganese	0.35	0.35	0.35
Boron	0.03	0.045	0.03

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