

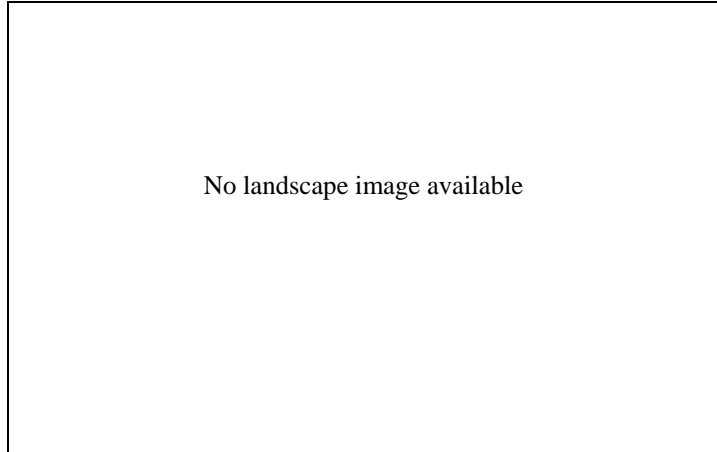
HIGHLY CALCAREOUS SANDY LOAM (shallow Wookata soil)

General Description: *Very highly calcareous sandy loam with rubbly calcrete at variable depth*

Landform: Undulating rises formed on old coastal dunes.

Substrate: Calcreted calcareous sand.

Vegetation:



Type Site: Site No.: EL035

1:50,000 sheet: 5929-1 (Kiana)

Hundred: Kiana

Annual rainfall: 500 mm

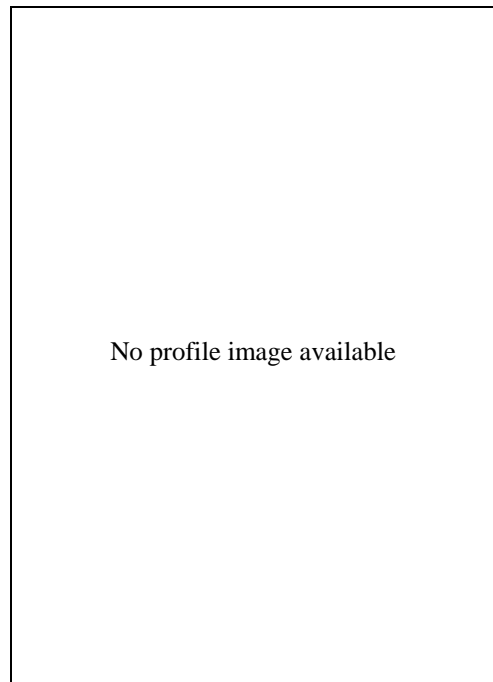
Sampling date: 12/02/91

Landform: Slope of rise

Surface: Soft with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Very dark greyish brown very highly calcareous sandy loam.
10-40	Brown very highly calcareous sandy loam.
40-60	Brown very highly calcareous light sandy loam with more than 50% calcrete rubble.
60-70	Light yellowish brown very highly calcareous light sandy loam.



Classification: Supraescent, Regolithic, Lithocalcic Calcarosol; thick, non-gravelly, loamy / loamy, moderate

Summary of Properties

Drainage	Rapidly drained. Soil never remains wet for more than a few hours.
Fertility	Inherent fertility is low due to moderately low clay content and very high carbonate content. The carbonate reduces the availability of phosphorus, zinc, manganese and copper. The low clay content is partly offset by high organic carbon levels (typical of calcareous soils) which increase nutrient retention capacity.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	Not recorded. Estimate 40 cm in pit.
Barriers to root growth	
Physical:	The rubble layer restricts growth to some extent.
Chemical:	High pH and salinity above the rubbly layer prevent deep root growth.
Water holding capacity	Approximately 50 mm in the root zone.
Seedling emergence:	Satisfactory.
Workability:	Soft surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderate.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-10	8.2	7.5	63	0.7	3.3	2.86	31	-	-	-	0.44	19.4	1.61	0.64	-	-	-	-	-	-
10-40	9.0	8.3	60	3.1	12.5	1.23	4	-	-	-	0.26	25.0	1.05	0.26	-	-	-	-	-	-
40-60	9.7	8.7	68	4.4	16.2	-	-	-	-	9.9	0.29	14.6	1.09	0.14	-	-	-	-	-	-
60-70	9.8	8.7	63	3.5	17.2	-	-	-	-	16.3	0.26	11.9	0.64	0.17	-	-	-	-	-	-

Note: CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC