

DEEP RUBBLY CALCAREOUS SANDY LOAM

General Description: *Highly calcareous grey sandy loam over a rubbly very highly calcareous sandy clay loam, continuing below 100 cm with increasing clay content and variable rubble*

Landform: Gently undulating rises.

Substrate: Very highly calcareous medium to fine grained Woorinen Formation deposits.

Vegetation:



Type Site: Site No.: CY017

1:50,000 sheet:	6427-4 (Edithburgh)	Hundred:	Melville
Annual rainfall:	420 mm	Sampling date:	10/12/92
Landform:	Crest of low rise, 1% slope		
Surface:	Hard setting with no stones		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-23	Dark brown firm highly calcareous fine sandy loam with weak coarse subangular blocky structure. Clear to:
23-42	Dark brown friable massive very highly calcareous fine sandy clay loam with more than 50% calcrete fragments (20-60 mm). Gradual to:
42-85	Light brown soft massive very highly calcareous light sandy clay loam with 2-10% carbonate nodules (6-20 mm). Diffuse to:
85-170	Very pale brown friable massive fine sandy light clay with 2-10% carbonate nodules (6-20 mm). clear to:
170-180	Laminar calcrete pan. Clear to:
180-210	Reddish yellow friable massive highly calcareous fine sandy light clay.



Classification: Hypervescent, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, loamy / clay loamy, very deep

Summary of Properties

Drainage	Well drained. The soil rarely remains wet for more than a day or so following heavy or prolonged rainfall.
Fertility	The soil's natural capacity to retain nutrients is moderate as indicated by the exchangeable cation data. Surface fertility relies on organic matter levels which are adequate, and on phosphorus levels which are low at this site. Nutrient availability problems due to the high free lime content and the high pH are characteristic of this soil. Copper and zinc deficiencies are likely, but concentrations are satisfactory at the sampling site. Potassium levels are adequate.
pH	Alkaline throughout.
Rooting depth	120 cm in pit, but few below 85 cm
Barriers to root growth	
Physical	There are no physical barriers.
Chemical	High sodicity and pH from 85 cm restrict deeper root growth.
Water holding capacity	Approximately 130 mm in the rootzone, but about a third is effectively unavailable due to low root density in the subsoil.
Seedling emergence	Good.
Workability	Good.
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	
Paddock	8.0	7.7	6	0.20	0.81	2.0	12	870	-	2.0	0.67	7.0	6.1	0.65	21.3	16.1	1.90	0.12	2.46	0.6
0-23	8.2	7.8	11	0.19	0.66	1.6	8.4	850	-	2.1	0.69	5.7	8.2	0.39	18.0	15.3	1.94	0.15	2.10	0.8
23-42	8.2	7.9	31	0.18	0.42	1.1	5.3	400	-	2.1	0.71	8.6	2.6	0.19	14.2	13.2	2.11	0.20	0.91	1.4
42-85	8.6	7.9	52	0.16	0.45	0.39	<2.0	160	-	1.6	0.55	4.2	0.72	0.10	7.3	5.68	2.72	0.36	0.23	4.9
85-170	9.3	8.1	53	0.39	2.16	0.22	<2.0	230	-	1.9	0.33	1.9	0.71	0.07	5.8	2.72	3.28	1.57	0.54	27.1
170-180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
180-210	9.5	8.4	45	0.70	3.50	0.13	<2.0	420	-	9.1	0.47	3.2	0.49	0.11	10.2	1.97	5.93	4.01	1.03	39.3

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.

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