

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 mapsheet:	6427-4 (Edithburgh)
	Hundred:	Melville	Easting:	740800
	Section:	294S	Northing:	6122300
	Sampling date:	10/12/1992	Annual rainfall:	425 mm average

Crest of low rise, 1% slope. Hard setting surface with no stones.

Soil Description:

Depth (cm)	Description
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.
- Waterholding 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 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

Further information: [DEWNR Soil and Land Program](#)

