## **DEEP RUBBLY CALCAREOUS LOAM**

**General Description:** Highly calcareous sandy loam becoming more calcareous at depth with variable rubble content

**Landform:** Gently undulating plain.

**Substrate:** Very highly calcareous

medium grained windblown

deposits (Woorinen

Formation).

Vegetation:



**Type Site:** Site No.: CY006 1:50,000 mapsheet: 6429-3 (Maitland)

Hundred:KilkerranEasting:736800Section:71Northing:6201850

Sampling date: 8/12/1992 Annual rainfall: 395 mm average

Very gentle slope of 1%. Firm surface with no stones.

## **Soil Description:**

Depth (cm)	Description
0-15	Dark brown friable massive highly calcareous loam. Gradual to:
15-32	Brown friable massive very highly calcareous fin sandy loam with 2-10% carbonate nodules (2-20 mm). Clear to:
32-54	Yellowish brown soft massive very highly calcareous fine sandy loam with 20-50% carbonate nodules (20-60 mm). Clear to:
54-80	Yellowish brown soft massive very highly calcareous fine sandy loam with 10-20% carbonate nodules (6-20 mm). Gradual to:
80-155	Yellowish brown soft massive very highly calcareous sandy loam with more than 50% carbonate nodules (20-60 mm). Diffuse to:
155-170	Brownish yellow friable massive very highly

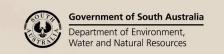
carbonate nodules (6-20 mm).

calcareous fine sandy clay loam with 20-50%



Classification: Hypervescent, Regolithic, Lithocalcic Calcarosol; thick, non-gravelly, loamy / clay loamy,

very deep





## Summary of Properties

**Drainage:** Well drained. The soil rarely remains saturated 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 values. 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 high pH are characteristic of this soil.

Copper and zinc deficiencies can be expected.

**pH:** Alkaline at the surface, strongly alkaline at depth.

**Rooting depth:** Some roots to 98 cm in pit, but few below 80 cm.

Barriers to root growth:

**Physical:** There are no physical barriers.

**Chemical:** High sodicity, pH and boron concentrations, and moderately high salinity, restrict root

growth below 80 cm. Low trace element availability compounds the situation.

Waterholding capacity: Approximately 100 mm in rootzone, but about a third is effectively unavailable due to

low root density in the subsoil.

**Seedling emergence:** Good. Organic matter levels need to be maintained to preserve soil structure.

Workability: Good.

**Erosion Potential:** 

Water: Low.

Wind: Moderately low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>	CO <sub>3</sub>	EC1:5 dS/m	ECe dS/m	%	Avail. P	K	mg/kg	Boron mg/kg	oron Trace Elements mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg			Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	(%)
Paddock	8.2	7.7	17	0.21	0.63	1.6	21	750	-	2.6	0.77	4.7	13	0.57	19.2	14.9	1.71	0.17	2.08	0.9
0-15	8.2	7.7	16	0.19	0.58	1.3	15	770	-	2.8	0.78	4.4	9.1	0.36	19.0	16.0	1.99	0.16	2.15	0.8
15-32	8.4	7.9	30	0.16	0.38	0.71	4.8	400	-	2.8	0.94	3.7	3.5	0.15	17.5	14.1	2.90	0.40	1.06	2.3
32-54	8.8	7.9	50	0.21	0.63	0.52	4.2	160	-	4.5	0.75	3.3	2.3	0.11	12.0	8.72	3.64	1.26	0.49	10
54-80	9.5	8.0	59	0.36	1.29	0.30	<2.0	200	-	9.4	0.80	2.4	0.92	0.07	8.4	3.51	3.82	2.46	0.63	29
80-155	9.6	8.3	60	1.17	8.12	0.13	<2.0	350	-	17.6	0.40	1.6	0.73	0.07	7.6	1.67	3.42	4.43	0.97	58
155-170	9.6	8.3	65	1.21	9.79	0.12	<2.0	310	-	14.3	0.29	1.3	0.85	0.08	5.8	1.27	2.75	3.25	0.69	56

**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: <u>DEWNR Soil and Land Program</u>



