

CALCAREOUS LOAMY SAND

General Description: *Deep reddish calcareous loamy sand becoming more clayey and calcareous with depth*

Landform: Slopes and crests of low sand hills

Substrate: Calcareous clayey sand to sandy clay loam (sandy Woorinen Formation)

Vegetation: Mallee scrub



Type Site:	Site No.:	CM010		
	1:50,000 sheet:	6530-2 (Blyth)	Hundred:	Blyth
	Annual rainfall:	375 mm	Sampling date:	13/02/92
	Landform:	Dune crest		
	Surface:	Loose with no stones		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-5	Reddish brown slightly calcareous single grain loamy sand. Abrupt to:
5-12	Reddish brown moderately calcareous single grain loamy sand. Sharp to:
12-20	Yellowish red moderately calcareous massive loamy sand. Abrupt to:
20-50	Brown highly calcareous massive light sandy loam. Clear to:
50-115	Orange very highly calcareous massive clayey sand with 10-20% soft carbonate segregations. Gradual to:
115-137	Orange very highly calcareous massive sandy clay loam with 10-20% soft Class III A carbonate segregations. Clear to:
137-160	Orange very highly calcareous massive clayey sand with 10-20% soft carbonate segregations.



Classification: Ceteric, Regolithic, Calcic Calcarosol; thick, non-gravelly, sandy / loamy, deep.

Summary of Properties

Drainage	The soil is rapidly drained and no part of the profile remains wet for more than a couple of hours.
Fertility	The soil has a low capacity to store and supply nutrients (low cation exchange capacity) due to its low clay and organic matter content. Phosphorus and zinc levels are low at sampling site.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	115 cm in pit with very few roots extending beyond this depth.
Barriers to root growth	
Physical:	There are no physical barriers.
Chemical:	Low fertility and high pH at depth (reducing nutrient availability), restrict healthy root development.
Water holding capacity	Approximately 100 mm in root zone.
Seedling emergence	Good, except that water repellence may be a problem in some years.
Workability	Good.
Erosion Potential	
Water:	Low.
Wind:	Moderately high, due to the sandy surface, low fertility and exposed position.

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	8.6	7.6	1.0	0.12	1.0	0.74	17	420	-	-	0.26	2.6	3.6	0.32	6.5	5.52	1.07	0.06	1.07	na
0-5	8.4	7.5	0.6	0.16	1.6	0.87	24	460	-	-	0.30	3.1	6.7	0.42	6.4	5.45	1.03	0.05	1.10	na
5-12	9.0	7.9	1.4	0.08	0.5	0.39	7	270	-	-	0.14	1.3	1.4	0.12	7.4	6.78	1.00	0.02	1.15	na
12-20	9.1	8.0	1.0	0.07	0.3	0.17	2	210	-	-	0.13	1.7	0.6	0.03	5.0	5.03	0.80	0.04	0.73	na
20-50	9.3	8.2	3.4	0.07	0.3	0.20	2	90	-	-	0.31	1.3	0.5	0.00	5.1	5.45	1.38	0.10	0.25	na
50-115	9.4	8.3	12.1	0.07	0.2	0.18	2	80	-	1.2	0.29	1.0	0.4	0.02	5.1	4.14	2.56	0.12	0.23	na
115-137	9.5	8.4	20.4	0.10	0.5	0.14	1	130	-	1.6	0.28	1.0	0.2	0.02	5.7	2.54	5.01	0.20	0.34	na
137-160	9.5	8.4	12.0	0.12	0.8	0.10	2	180	-	1.7	0.27	1.0	0.3	0.04	5.1	1.91	4.79	0.20	0.48	na

Note: Paddock sample bulked from 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.