

CALCAREOUS SANDY LOAM (Black oak soil)

General Description: *Calcareous sandy loam over light rubble grading to very highly calcareous sandy clay loam with depth*

- Landform:** Low rises
- Substrate:** Fine grained sediment capped by soft carbonate
- Vegetation:** Black oak, pearl bluebush and bullock bush



Type Site: Site No.: CM069

1:50,000 sheet: 6831-3	Hundred:	Out of Hundreds
Annual rainfall: 215 mm	Sampling date:	06/10/95
Landform: Upper slope of very low rise, 2% slope		
Surface: Soft, with lichen crust and no stones		

Soil Description:

Depth (cm)	Description
0-20	Reddish brown soft highly calcareous sandy loam. Clear to:
20-45	Brown soft very highly calcareous light sandy clay loam with 20-50% carbonate rubble. Gradual to:
45-75	Orange and yellowish brown hard highly calcareous sandy clay loam with weak angular blocky structure and 10-20% soft carbonate. Diffuse to:
75-100	Orange and pale olive very hard slightly calcareous sandy clay loam with moderate angular blocky structure and 2-10% soft carbonate. Diffuse to:
100-140	Yellowish brown and light grey mottled very hard slightly calcareous sandy light clay with moderate angular blocky structure and 2-10% soft carbonate.



Classification: Epihypersodic, Regolith, Supracalcic Calcarosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage Well drained. The soil is unlikely to remain wet for more than a day or so after heavy rain.

Fertility Natural fertility is moderate. High carbonate content at shallow depth limits nutrient uptake.

pH Alkaline throughout.

Rooting depth 140 cm in pit, but few roots below 75 cm.

Barriers to root growth

Physical: Slight limitation due to hard coarsely structured subsoil.

Chemical: High salinity (from 45 cm), high sodicity (from 75 cm) and high boron (from 100 cm) may have some effect on root development. The main limitation is competition from the casuarinas.

Water holding capacity Approximately 100 mm in main root zone, with some additional storage below (although moisture unlikely to reach 75 cm in most years).

Seedling emergence: Good.

Erosion Potential

Water: Low.

Wind: Moderately low.

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	
0-20	8.8	8.2	6.5	0.10	0.53	0.7	4	376	5	1.0	-	-	-	-	7.4	7.33	1.83	0.17	0.80	2.3
20-45	9.2	8.5	17.2	1.02	7.71	0.6	<4	331	72	4.0	-	-	-	-	7.7	5.28	3.69	1.40	0.70	18.2
45-75	9.2	8.7	13.5	1.31	10.6	0.2	<4	310	171	11.5	-	-	-	-	6.3	4.12	3.97	1.04	0.57	16.5
75-100	9.3	8.8	6.8	1.31	9.78	0.1	<4	291	152	15.4	-	-	-	-	7.5	2.59	4.54	2.83	0.56	37.7
100-140	9.0	8.7	0.4	1.80	10.6	0.1	<4	346	203	25.2	-	-	-	-	11.2	2.13	5.92	4.23	0.72	37.8

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.