

CALCAREOUS SANDY LOAM (Bookabie / Wiabuna soil)

General Description: *Calcareous sandy loam grading to a very highly calcareous sandy clay loam with variable rubble, continuing below 120 cm*

Landform: Very gently undulating rises.

Substrate: Very highly calcareous sandy clay loam (Woorinen Formation).

Vegetation: Mallee / bluebush



Type Site: Site No.: EF027

1:50,000 sheet: 5534-3 (Penong)

Hundred: Catt

Annual rainfall: 325 mm

Sampling date: 09/03/88

Landform: Crest of low rise

Surface: Firm with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark reddish brown highly calcareous sandy loam. Clear to:
10-30	Dark reddish brown highly calcareous light sandy clay loam. Gradual to:
30-50	Yellowish brown very highly calcareous light sandy clay loam. Clear to:
50-75	As above with more than 50% carbonate nodules (Class III B/C). Gradual to:
75-110	Light brown very highly calcareous sandy clay loam with 10-20% carbonate nodules. Gradual to:
110-150	Orange very highly calcareous clayey sand with 10-20% carbonate nodules. Diffuse to:
150-200	Reddish yellow very highly calcareous fine sandy clay.



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

Summary of Properties

- Drainage** Well drained. The soil is never wet for more than a few days.
- Fertility** Inherent fertility is moderately low, as indicated by the exchangeable cation data. High carbonate content to the surface reduces the availability of phosphorus, zinc, manganese and copper. Phosphorus levels at the sampling site are adequate, but zinc is deficient. Organic carbon levels are satisfactory.
- pH** Alkaline at the surface, strongly alkaline at depth.
- Rooting depth** 75 cm in pit.
- Barriers to root growth**
- Physical:** There are no physical barriers.
 - Chemical:** High pH, sodicity and boron concentrations from 50 cm limit root growth.
- Water holding capacity** Approximately 70 mm in the root zone.
- Seedling emergence:** Satisfactory.
- Workability:** Surface soil is firm to soft and easily worked.
- 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	
0-10	8.2	7.8	12	0.40	1.34	1.3	26	-	-	2.6	0.22	2.21	3.45	0.21	9.0	7.69	1.33	0.10	1.06	1.1
10-30	8.7	8.0	16	0.24	0.72	0.52	4.00	-	-	4.1	0.20	1.10	2.11	0.13	7.9	5.55	2.62	0.14	0.92	1.8
30-50	9.4	8.4	21	0.36	1.84	0.22	3.6	-	-	14.7	0.30	1.48	0.85	0.12	5.2	2.40	3.67	0.87	1.12	16.7
50-75	10.0	8.8	47	0.92	6.15	0.22	3.6	-	-	30.00	0.67	1.31	0.53	0.24	5.3	1.69	3.05	3.41	1.51	64.3
75-110	9.9	8.7	50	1.12	6.35	0.17	3.5	-	-	30.80	0.93	1.22	0.37	0.22	7.7	1.11	2.67	4.92	1.63	63.9
110-150	9.7	8.7	46	1.24	9.79	<0.1	3.5	-	-	26.00	0.92	1.13	0.51	0.25	6.0	1.35	2.21	3.70	1.43	61.7
150-200	9.6	8.7	45	1.60	11.90	<0.1	3.5	-	-	23.20	1.12	1.02	0.48	0.30	6.1	1.49	2.05	3.68	1.36	60.3

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