

DEEP WEAKLY CALCAREOUS SANDY LOAM

General Description: *Slightly to moderately calcareous sandy loam becoming gradually more clayey and calcareous with depth*

Landform: Gently undulating rises.

Substrate: Coarse textured alluvial sediments (Pooraka Formation), mantled by windblown carbonates.

Vegetation:



Type Site:	Site No.:	EE203	1:50,000 mapsheet:	6130-1 (Rudall)
	Hundred:	Yadnarie	Easting:	623650
	Section:	466	Northing:	6272600
	Sampling date:	17/09/2001	Annual rainfall:	365 mm average

Midslope of a gently undulating rise, 1% slope. Soft surface with minor quartz gravel (6-20 mm).

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Reddish brown soft massive slightly calcareous sandy loam. Gradual to:
12-25	Red friable slightly calcareous sandy clay loam with weak coarse subangular blocky structure and minor quartzite gravel (6-20 mm). Gradual to:
25-40	Yellowish red friable massive highly calcareous sandy clay loam. Gradual to:
40-70	Yellowish red friable massive very highly calcareous sandy loam. Gradual to:
70-130	Yellowish red friable massive very highly calcareous sandy loam with 2-10% fine carbonate segregations.



Classification: Endohypersodic, Regolithic, Calcic Calcarosol; very thick, non-gravelly, loamy / clay loamy, deep



Summary of Properties

Drainage: Rapidly drained. Soil rarely remains saturated for more than a few hours following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. At the type site. Concentrations of all tested nutrient elements are adequate, although organic carbon and associated nitrogen reserves are low.

pH: Slightly alkaline at the surface, strongly alkaline with depth.

Rooting depth: 130 cm in pit (continuing).

Barriers to root growth:

Physical: There are no apparent physical barriers, although subsurface compaction is likely if soil is over-grazed or over-worked.

Chemical: There are no apparent chemical barriers shallower than 70 cm. From 70 cm, high sodicity / pH restrict root growth.

Waterholding capacity: Approximately 130 mm in the rootzone

Seedling emergence: Satisfactory provided that the surface is not allowed to seal over.

Workability: Good.

Erosion Potential:

Water: Moderately low due to the low gradient.

Wind: Moderately low. Soil will blow if left bare.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	Org.C %	NO ₃ mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO ₄ mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Zn	Mn		Ca	Mg	Na	K	
0-12	7.4	6.5	nd	0.06	0.98	5	32	438	4.4	1.7	0.36	4.3	0.77	3.62	11.2	8.13	1.77	0.20	1.08	1.8
12-25	8.6	8.2	nd	0.08	0.32	2	6	260	1.8	1.7	0.50	-	0.25	0.51	14.4	11.4	2.14	0.15	0.66	1.0
25-40	8.9	8.4	nd	0.09	0.28	2	3	128	5.1	1.2	0.52	-	0.14	0.96	14.1	11.0	2.54	0.23	0.32	1.6
40-70	8.8	8.4	nd	0.12	0.25	3	1	121	1.8	1.2	0.37	-	0.19	0.71	13.4	9.10	3.66	0.34	0.29	2.5
70-130	9.9	8.9	nd	0.35	0.17	3	1	175	5.8	2.8	0.40	-	0.33	1.12	12.4	6.23	2.84	2.93	0.42	23.6

Note: Sum of cations in neutral to alkaline soils is an approximation of cation exchange capacity (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 sum of cations.

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

