SANDY LOAM OVER SANDY CLAY ON CALCRETE

General Description: Sandy loam over red or brown sandy clay to clay on calcrete at shallow depth

Landform: Flat to gently undulating

plain with occasional

sandhills.

Substrate: Interbedded lagoonal

limestone and clay (Padthaway Formation).

Vegetation: Mallee



Type Site: Site No.: MM097 1:50,000 mapsheet: 6926-3 (Tintinara)

Hundred:LewisEasting:409950Section:2Northing:6036150

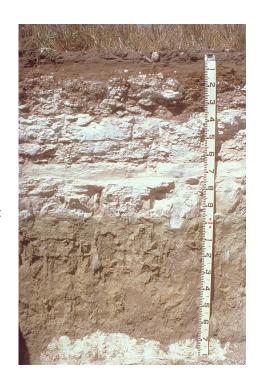
Sampling date: 06/03/1993 Annual rainfall: 465 mm average

Flat. Firm surface with 20-50% calcrete stone (60 - 200 mm).

Soil Description:

O-5 Very dark greyish brown soft slightly calcareous sandy loam. Abrupt to: 5-9 Brown friable slightly calcareous light sandy loam. Sharp to: 9-14 Dark brown firm massive slightly calcareous sandy clay. Abrupt to: 14-35 Rubbly calcrete with very highly calcareous fine sandy clay loam between the fragments. Sharp to 35-62 Laminar limestone, indurated with secondary carbonate. Abrupt to: 62-93 Massive limestone. Abrupt to: 93-165 Light olive grey hard sandy medium clay with coarse angular blocky structure. Abrupt to:	Depth (cm)	Description
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Massive limestone.



Classification: Haplic, Lithocalcic, Brown Chromosol; thin, moderately gravelly, loamy / clayey, shallow



165-180



Summary of Properties

Drainage: Moderately to well drained. Soil rarely remains wet for more than a few days.

Fertility: Inherent fertility is moderately low, as indicated by the exchangeable cation data.

Regular phosphorus applications are essential. Nitrogen levels depend on legume content of pastures and cropping intensity. Deficiencies of zinc and copper are likely, although levels are adequate at sampling site. Manganese may be needed on cereals.

Organic carbon concentrations are low.

pH: Alkaline throughout.

Rooting depth: 35 cm in pit.

Barriers to root growth:

Physical: The calcrete and limestone reduce root growth. Some occurs through the rubbly

calcrete, but very little growth occurs into the limestone.

Chemical: There are no chemical barriers above the limestone.

Waterholding capacity: 25 mm in the rootzone.

Seedling emergence: Satisfactory.

Workability: Soft to firm surface is easily worked, but stones can interfere with and abrade

equipment.

Erosion Potential:

Water: Low.

Wind: Low to moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C %	P	K	Boron mg/kg	0 0				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg		Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Patrick	-	4		-				-	-	-	-		-	-	-		-		
0-5	8.2	7.6	2	0.10	0.7	1.2	29	180	0.93	0.47	3.8	2.3	4	9.6	7.85	1.64	0.08	0.43	0.8
5-9	8.5	7.7	3	0.06	0.37	0.6	9	110	0.79	0.63	2.5	1.2	1.6	8.7	6.66	1.56	0.08	0.27	0.9
9-14	8.5	7.8	4	0.08	0.43	0.5	3	90	0.8	0.16	4.7	1.0	0.57	13.6	9.35	2.70	0.13	0.31	1.0
14-35	8.6	8.0	25	0.12	0.55	0.8	5	100	1.2	0.16	12	0.75	0.3	16.1	11.44	4.20	0.20	0.36	1.2
35-93	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
93-165	9.4	8.4	3	0.23	1.46	< 0.1	<2	640	3.9	0.06	2.5	0.07	0.07	19.6	0.44	14.15	2.70	1.58	13.8
165-180	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-

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.

Further information: <u>DEWNR Soil and Land Program</u>

