SANDY LOAM OVER POORLY STRUCTURED RED CLAY

General Description: *Firm sandy loam over a coarsely structured dispersive red sandy clay to clay, calcareous with depth*

Landform: Gently undulating plain.

Substrate: Massive sandy clay to sandy loam (Tertiary Parilla Sand equivalent)

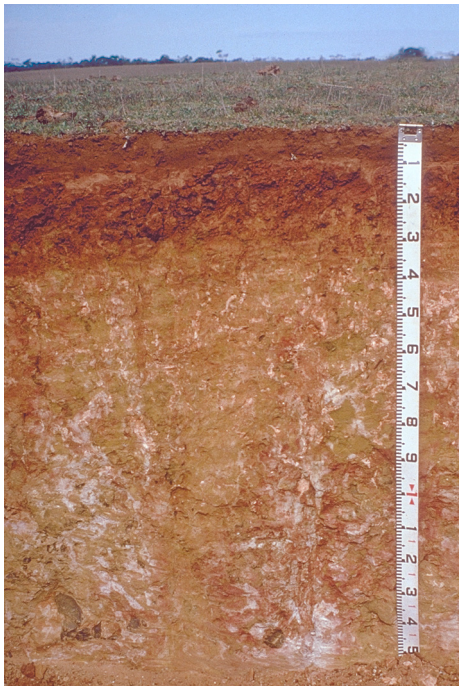
Vegetation: Mallee

Type Site:

Site No.:	MM062	1:50,000 mapsheet:	7026-4 (Bainton)
Hundred:	Day	Easting:	475500
Section:	27	Northing:	6070000
Sampling date:	26/8/1992	Annual rainfall:	375 mm average

Flat, firm surface, no stones.

Soil Description:



Depth (cm)	*Description*
0-8	Dark reddish brown firm massive sandy loam. Sharp to:
8-10	Reddish brown firm massive sandy loam with minor ironstone gravel. Sharp to:
10-15	Yellowish red hard sandy medium clay with coarse columnar structure. Abrupt to:
15-27	Yellowish red and yellowish brown sandy medium clay with coarse prismatic structure. Clear to:
27-100	Yellowish red and yellowish brown hard massive sandy clay with minor fine carbonate. Diffuse to:
100-160	Yellowish red and yellowish brown hard massive light sandy clay loam with minor fine carbonate.

Classification: Hypocalcic, Mesonatric, Red Sodosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage: Moderately well drained. Soil may remain saturated for a week or so at a time following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low as indicated by the exchangeable cation data. Nutrient retention capacity is low in the surface soil, partly due to low organic carbon levels. Phosphorus and nitrogen deficiencies are common (including the sampling site), and copper and zinc deficiencies occur from time to time.

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

Rooting depth: 27 cm in pit.

Barriers to root growth:

Physical: Dense dispersive subsoil prevents uniform root distribution.

Chemical: High pH and high sodicity from 27 cm restrict deeper root growth.

Waterholding capacity: 35 mm in rootzone.

Seedling emergence: Slight limitation due to risk of surface waterlogging.

Workability: Fair. Surface tends to puddle if worked too wet, and shatter if worked too dry.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaCl_2$	CO_3 %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K 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	6.9	6.1	<1	0.06	0.37	0.73	5.4	290	1.4	-	-	-	-	6.1	4.53	1.65	0.27	0.44	4.4
0-8	6.7	6.1	<1	0.08	0.48	0.96	5.9	240	1.6	-	-	-	-	6.6	4.85	1.94	0.31	0.38	4.7
8-10	7.1	6.2	<1	0.06	0.30	0.49	2.4	130	1.2	-	-	-	-	4.9	2.91	1.56	0.40	0.17	8.2
10-15	7.5	6.6	1	0.15	0.61	0.55	2.0	190	2.7	-	-	-	-	12.3	4.47	5.01	1.67	0.36	13.6
15-27	8.0	7.1	1	0.24	0.69	0.43	2.2	210	4.9	-	-	-	-	20.8	6.40	9.61	3.93	0.51	18.9
27-100	9.4	8.6	3	0.55	1.86	0.05	3.4	180	6.1	-	-	-	-	10.5	2.37	5.66	3.93	0.29	37.4
100-160	9.2	8.5	1	0.71	4.39	<0.01	<2.0	270	3.8	-	-	-	-	10.9	1.44	4.87	4.98	0.41	45.7

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: DEWNR Soil and Land Program