

CLAY LOAM OVER GREY CLAY

General Description: *Loam to clay loam over a strongly structured brown or grey clay, calcareous with depth*

Landform: Level plain.

Substrate: Calcrete capped clay.

Vegetation:



Type Site: Site No.: SE029
 1:50,000 sheet: 6924-2 (Lucindale) Hundred: Joyce
 Annual rainfall: 610 mm Sampling date: 15/06/94
 Landform: Flat
 Surface: Firm with no stones. Water table at 135 cm.

Soil Description:

Depth (cm)	Description
0-11	Dark brown fine sandy clay loam. Abrupt to:
11-25	Dark greyish brown and yellowish red medium heavy clay. Abrupt to:
25-45	Dark greyish brown and yellowish red medium heavy clay with 2-10% carbonate nodules (20-60 mm). Diffuse to:
45-85	Nodular calcrete with matrix of moderately calcareous light olive brown and yellowish brown medium heavy clay with strong coarse polyhedral structure. Diffuse to:
85-135	Grey and yellowish brown slightly calcareous medium clay with 10-20% carbonate nodules (2-20 mm). Water table at base.



Classification: Mottled-Sodic, Lithocalcic, Grey Chromosol; medium, non-gravelly, clay loamy/clayey, deep

Summary of Properties

Drainage	Imperfectly drained. The clayey subsoil perches water for several weeks at a time following heavy or prolonged rainfall. Deep drainage impeded by water table.
Fertility	Inherent fertility is high, as indicated by the exchangeable cation data. The high clay content throughout provides ample nutrient retention capacity. Phosphorus concentrations are low, but levels of other tested elements are satisfactory.
pH	Slightly alkaline at the surface, alkaline with depth.
Rooting depth	45 cm in pit.
Barriers to root growth	
Physical:	The clayey subsoil restricts root growth to some extent.
Chemical:	High carbonate concentration in a clayey matrix impedes root growth.
Water holding capacity	Approximately 65 mm in the root zone.
Seedling emergence:	Fair to satisfactory, depending on degree of compaction of surface.
Workability:	Fair. Clay loamy surface tends to become sticky and intractable when wet.
Erosion Potential	
Water:	Low.
Wind:	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	
Paddock	7.4	6.8	<0.1	0.18	0.43	2.9	9	225	11.7	1.7	-	-	-	-	14.2	7.14	1.84	0.38	0.66	2.7
0-11	7.7	7.2	0.1	0.24	0.59	3.0	12	201	9.5	1.6	-	-	-	-	16.3	9.31	2.10	0.31	0.74	1.9
11-25	8.3	7.7	14.9	0.21	0.87	0.7	5	233	6.3	1.1	-	-	-	-	23.6	19.17	3.42	0.67	1.24	2.8
25-45	8.6	7.9	32.5	0.21	0.93	0.6	4	311	7.1	1.6	-	-	-	-	21.3	16.32	3.63	0.88	1.40	4.1
45-85	9.0	7.9	45.9	0.29	0.98	0.1	2	292	12.5	3.9	-	-	-	-	18.3	8.87	7.41	2.48	1.18	13.6
85-125	9.0	8.0	55.7	0.37	1.53	0.2	2	273	17.5	3.8	-	-	-	-	16.4	6.52	7.34	3.32	0.94	20.2

Note: Paddock sample bulked from 20 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