

SANDY LOAM OVER RED CLAY

General Description: *Thin to medium thickness sandy loam over a red sandy clay to light clay, calcareous with depth*

Landform: Undulating rises.

Substrate: Silty clay, possibly deeply weathered schistose basement rock.

Vegetation:



Type Site: Site No.: CY002

1:50,000 sheet: 6429-3 (Maitland)

Hundred: Tiparra

Annual rainfall: 475 mm

Sampling date: 19/02/92

Landform: Lower slope of 3%

Surface: Firm with no stones.

Soil Description:

Depth (cm)	Description
0-9	Dark reddish brown firm sandy loam with moderate fine granular structure. Abrupt to:
9-26	Yellowish red firm sandy light clay with moderate coarse prismatic structure. Clear to:
26-42	Strong brown friable massive highly calcareous light medium clay. Gradual to:
42-63	Reddish yellow friable massive very highly calcareous light medium clay with 20% calcrete fragments. Gradual to:
63-122	Reddish yellow friable massive very highly calcareous light medium clay. Diffuse to:
122-185	Very pale brown friable massive very highly calcareous silty light medium clay.



Classification: Sodic, Hypercalcic, Red Chromosol; thin, non-gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Well to moderately well drained. The soil rarely remains wet for more than a week following heavy or prolonged rainfall
Fertility	Surface fertility relies on organic matter levels which are low, and on phosphorus levels which are adequate at this site. The soil's capacity to retain nutrients is high to moderate. Zinc levels indicate that a response to applied zinc is likely.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	Roots to 75 cm in pit.
Barriers to root growth	
Physical:	Prismatic subsoil structure restricts root density, but does not prevent root growth.
Chemical:	High pH from 63 cm and low subsoil nutrient availability contribute to reduced root growth in the deep subsoil.
Water holding capacity	Approximately 105 mm in rootzone.
Seedling emergence:	Good to fair.
Workability:	Good to fair.
Erosion Potential	
Water:	Moderately 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	8.6	7.6	0.3	0.12	0.7	0.76	27	310	-	-	0.27	4.6	3.6	0.18	10.5	10.19	1.61	0.07	0.86	0.7
0-9	8.3	7.3	0.0	0.10	0.5	0.85	34	350	-	-	0.34	6.7	4.7	0.18	11.6	10.20	1.62	0.08	0.91	0.7
9-26	8.6	7.5	1.0	0.08	0.3	0.27	3	240	-	2.1	0.28	8.6	0.2	0.06	18.8	16.10	3.00	0.16	0.90	0.9
26-42	9.0	7.9	12.6	0.09	0.2	0.25	3	170	-	2.2	0.48	3.7	0.6	0.06	14.9	12.94	3.19	0.20	0.65	1.3
42-63	9.2	8.0	29.6	0.09	0.2	0.28	4	150	-	2.2	0.69	2.5	0.7	0.07	12.0	9.70	4.10	0.25	0.51	2.1
63-122	9.6	8.3	56.7	0.18	0.9	0.28	3	280	-	4.1	0.41	0.8	0.3	0.03	11.4	4.26	7.95	0.85	0.73	7.5
122-185	10.1	8.7	43.6	0.67	1.7	0.21	2	370	-	14.4	0.46	4.0	0.3	0.04	18.7	1.57	9.20	11.05	1.31	59.1

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.