

SANDY LOAM OVER DISPERSIVE RED CLAY

General Description: *Hard sandy loam to sandy clay loam abruptly overlying a poorly structured, dispersive red clay, calcareous with depth*

Landform: Lower slopes of undulating rises and low hills.

Substrate: Tertiary age sandy clays to clayey sands, mantled by windblown carbonates.

Vegetation:



Type Site: Site No.: EE222
 1:50,000 sheet: 6130-1 (Rudall) Hundred: Campoona
 Annual rainfall: 425 mm Sampling date: 18/09/01
 Landform: Lower slope of undulating low hills, 2% slope.
 Surface: Hard setting with 10% quartz and ironstone, 10-30 mm.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Dark reddish brown sandy clay loam with weak granular structure. Abrupt to:
8-25	Red medium heavy clay with weak subangular blocky structure. Clear to:
25-70	Yellowish red highly calcareous light clay with strong angular blocky structure and 10-20% nodular carbonate. Diffuse to:
70-125	Dark yellowish brown massive sandy light clay with pockets of fine carbonate segregations.



Classification: Hypercalcic, Mesonatric, Red Sodosol; thin, gravelly, clay loamy / clayey, deep

Summary of Properties

Drainage: Well drained to imperfectly drained. Soil is likely to remain wet for a week or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately high, as indicated by the exchangeable cation data. Concentrations of all tested nutrient elements are adequate.

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

Rooting depth: 70 cm in pit, but few roots below 25 cm.

Barriers to root growth:

Physical: The poorly structure subsoil clay restricts root growth to some extent.

Chemical: High pH and sodicity below 25 cm severely limit root growth.

Water holding capacity: Approximately 50 mm in the potential root zone.

Seedling emergence: Fair to poor due to hard setting surface

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

Erosion Potential

Water: Moderate, due to high soil erodibility, and lower slope position.

Wind: Low.

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	
0-8	7.9	7.5	nd	0.18	1.66	6	52	246	4.1	1.4	0.30	48.4	1.57	12.0	13.2	7.71	3.84	1.0	0.65	7.6
8-25	9.4	8.7	nd	0.45	0.51	3	4	291	17.5	4.1	0.51	9.1	0.64	2.43	28.3	10.3	11.3	6.01	0.73	21.2
25-70	9.8	8.9	nd	0.74	0.23	3	3	295	108	10.4	0.52	7.1	0.38	1.25	25.6	6.15	9.82	8.87	0.77	34.6
70-125	9.7	8.8	nd	0.84	0.13	3	1	266	144	11.0	0.36	7.4	0.63	1.39	24.8	6.10	8.36	9.67	0.65	39.0

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.