

SANDY LOAM OVER RED CLAY

General Description: *Medium thickness reddish sandy loam to light sandy clay loam over a well structured red clay, calcareous with depth*

Landform: Very gently undulating alluvial plains

Substrate: Medium to fine grained alluvial sediments

Vegetation:



Type Site: Site No.: CL048

1:50,000 sheet: 6628-4 (Gawler)

Hundred: Munno Para

Annual rainfall: 425 mm

Sampling date: 11/12/06

Landform: Flat plain

Surface: Hard setting, no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-13	Dark reddish brown hard light sandy clay loam with weak granular structure. Clear to:
13-28	Yellowish red hard massive light sandy clay loam. Clear to:
28-55	Dark reddish brown hard medium clay with weak medium prismatic structure, breaking to strong medium subangular blocky. Gradual to:
55-75	Red hard moderately calcareous fine sandy light clay with strong fine subangular blocky structure and 20-50% fine carbonate segregations. Diffuse to:
75-110	Red firm moderately calcareous light clay with weak medium prismatic structure, 10-20% fine carbonate segregations and minor manganese coatings on ped faces.



Classification: Haplic, Hypercalcic, Red Chromosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage: Well drained. The subsoil clay is likely to perch water after very heavy rain and/or irrigation, but no part of the profile is likely to remain wet for more than a day or so.

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

pH: Alkaline throughout, although high surface pH is probably due to lime dust from adjacent roadways.

Rooting depth: Strong root growth to 55 cm, reducing to 75 cm with a few roots persisting to 110 cm or more.

Barriers to root growth

Physical: None.

Chemical: No apparent barriers.

Water holding capacity: Approximate values of total and readily available water are: 120 mm and 50 mm for hardy crops (eg vines), with a potential root depth of 100 cm 75 mm and 35 mm for vegetable crops with a potential root depth of 50 cm.

Seedling emergence: Slight to moderate restriction due to hard setting, sealing surface.

Workability: The surface soil shatters if worked too dry, and puddles if worked too wet.

Erosion Potential

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Cl mg/kg	SO ₄ -S mg/kg	Boron mg/kg	React Fe mg/kg	Trace Elements mg/kg (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-13	8.7	7.5	1.1	0.24	3.40	1.14	78	909	205	25.2	1.9	566	5.98	73	120	10.2	15.1	9.55	2.63	0.89	2.04	5.9
13-28	8.8	7.7	1.0	0.19	1.61	0.67	62	498	112	18.1	1.9	501	5.95	58	125	7.89	12.7	9.29	1.51	0.75	1.19	5.9
28-55	8.5	7.7	0.5	0.23	1.76	0.51	23	536	150	45.1	5.0	608	4.04	49	155	1.60	20.3	15.7	2.23	1.01	1.40	5.0
55-75	8.6	7.8	5.4	0.26	2.53	0.19	5	256	78	148	3.5	394	1.37	15	7.98	0.44	17.7	14.2	2.19	0.63	0.71	3.6
75-110	8.8	7.9	12.5	0.21	0.93	0.17	8	333	64	28.4	6.1	515	1.49	16	2.98	0.50	24.8	18.0	4.57	1.25	0.95	5.0

Note: Sum of cations, in a neutral to alkaline soil, approximates the CEC (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 CEC, in this case estimated by the sum of cations.