

ACIDIC LOAM OVER RED CLAY ON ROCK

General Description: *Dark brown loam to clay loam with a paler coloured and gravelly A2 horizon, overlying a reddish clay with strong blocky structure, grading to weathering fine grained metamorphic rock*

Landform: Slopes of undulating to rolling low hills

Substrate: Phyllites of the Strangway Hill Formation

Vegetation: Blue gum woodland



Type Site: Site No.: CH105

1:50,000 sheet:	6526-4 (Cape Jervis)	Hundred:	Yankalilla
Annual rainfall:	625 mm	Sampling date:	17/10/96
Landform:	Midslope of rolling low hills, with a gradient of 24%		
Surface:	Hard setting with 2-10% surface metasandstone rocks and stones		

Soil Description:

Depth (cm)	Description
0-10	Dark brown loam with moderate granular structure and 2-10% metasandstone fragments. Clear to:
10-20	Brown loam with weak blocky structure and 2-10% metasandstone fragments. Abrupt to:
20-50	Dark reddish brown medium clay with strong polyhedral structure and 10-20% phyllite fragments. Gradual to:
50-80	Dark reddish brown and dark brown mottled medium clay with strong polyhedral structure and 10-20% phyllite fragments. Clear to:
80-100	Dark greyish brown and orange mottled heavy clay with weak polyhedral structure and 20-50% phyllite fragments. Clear to:
100-120	Weathering phyllite.



Classification: Sodic, Eutrophic, Red Chromosol; medium, slightly gravelly, loamy / clayey, deep

Summary of Properties

Drainage	Moderately well drained. Water will "perch" on top of the clay subsoil for up to a week at a time following prolonged rainfall.
Fertility	Natural fertility is moderate. Phosphorus is very low and the fixation capacity of the soil is high. Copper and zinc levels are low. Organic carbon is high.
pH	Acidic at the surface, neutral with depth. Lime is required to correct problem.
Rooting depth	80 cm in cutting.
Barriers to root growth	
Physical:	Shallow depth to bedrock in places.
Chemical:	There are no chemical barriers, although acidity needs control.
Water holding capacity	Approximately 100 mm.
Seedling emergence:	Fair, due to hard setting, sealing surface soil.
Workability:	Fair to poor due to slope and surface stone.
Erosion Potential	
Water:	High, due to the slope.
Wind:	Moderately 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 (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.5	4.7	0	0.07	0.33	4.6	8	228	16	1.3	1.21	536	147	1.86	13.8	7.1	2.3	0.29	0.61	2.1
0-10	5.8	4.9	0	0.07	0.40	2.5	4	386	15	1.0	-	-	-	-	10.5	5.3	1.6	0.24	1.0	2.3
10-20	6.2	5.2	0	0.03	0.16	1.1	<4	263	11	0.9	-	-	-	-	6.5	4.0	1.5	0.20	0.85	3.0
20-50	6.6	5.8	0	0.06	0.15	1.2	<4	486	22	2.0	-	-	-	-	16.5	7.3	7.7	0.69	1.5	4.2
50-80	6.8	6.0	0	0.06	0.14	0.8	<4	458	18	1.9	-	-	-	-	18.3	5.8	8.6	0.73	1.4	4.0
80-100	7.2	6.2	0	0.06	0.21	0.4	<4	292	20	2.0	-	-	-	-	15.2	4.6	8.9	1.1	0.61	7.1

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.