

DEEP GRADATIONAL LOAM

General Description: *Firm loam to clay loam grading to a red brown well structured clay loam to clay with a prominent layer of soft carbonate at moderate depth overlying a coarsely structured orange clay*

Landform: Gentle slopes and flats formed on alluvial deposits

Substrate: Coarsely structured reddish clay mantled by soft carbonate

Vegetation:



Type Site: Site No.: CM065
 1:50,000 sheet: 6629-4 (Halbury) Hundred: Hall
 Annual rainfall: 425 mm Sampling date: 23/08/95
 Landform: Upper slope of very gently inclined alluvial fan, 2% slope
 Surface: Firm with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-7	Dark reddish brown loam with moderate granular structure. Abrupt to:
7-15	Dark reddish brown clay loam with moderate polyhedral structure. Clear to:
15-35	Red light clay with strong polyhedral structure. Gradual to:
35-50	Red moderately calcareous light clay with strong polyhedral structure. Clear to:
50-100	Orange very highly calcareous light clay with weak coarse blocky structure and more than 50% soft carbonate segregations. Diffuse to:
100-160	Orange very highly calcareous medium clay with strong coarse blocky structure and 20-50% soft carbonate segregations.



Classification: Sodic, Hypercalcic, Red Dermosol; thin, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage	Well drained. The soil is never likely to be saturated for more than a day or so.
Fertility	Natural fertility is high, and organic carbon levels are good. All elements are in good supply although sulphur is marginal.
pH	Slightly alkaline at the surface, strongly alkaline with depth.
Rooting depth	100 cm in pit.
Barriers to root growth	
Physical:	No physical barriers.
Chemical:	Very high pH and high boron with depth prevent root growth below 100 cm.
Water holding capacity	Approximately 150 mm in root zone (very high).
Seedling emergence	Good.
Workability	Good.
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	7.6	7.2	0	0.15	0.46	1.7	34	723	7	1.4	1.04	-	20.8	0.77	20.3	14.36	2.88	0.28	2.35	1.4
0-7	8.1	7.6	0	0.10	0.48	1.7	37	689	4	1.3	-	-	-	-	19.7	15.82	2.47	0.17	2.09	0.9
7-15	8.2	7.6	0	0.08	0.38	1.3	9	595	5	1.2	-	-	-	-	21.2	16.76	2.60	0.22	1.82	1.0
15-35	8.2	7.5	0	0.07	0.25	0.6	4	349	2	0.6	-	-	-	-	26.5	20.87	4.27	0.38	1.38	1.4
35-50	8.4	7.8	0.5	0.14	0.34	0.5	8	206	3	0.8	-	-	-	-	25.2	19.06	5.23	0.71	0.95	2.8
50-100	9.4	7.9	37.6	0.28	0.94	0.2	6	258	26	2.3	-	-	-	-	13.6	8.26	4.91	2.74	0.76	20.1
100-160	9.8	8.5	29.8	0.62	1.67	<0.1	<4	452	40	14.5	-	-	-	-	16.5	3.82	7.41	7.46	1.26	45.2

Note: Paddock sample bulked from 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.