

## 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:**



<b>Type Site:</b>	Site No.:	CM065	1:50,000 mapsheet:	6629-4 (Halbury)
	Hundred:	Hall	Easting:	274050
	Section:	385	Northing:	6222600
	Sampling date:	23/08/95	Annual rainfall:	445 mm average

Upper slope of very gently inclined alluvial fan. Firm surface, no stones, 2% slope.

### Soil Description:

Depth (cm)	Description
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

<b>Drainage:</b>	Well drained. The soil is never likely to be saturated for more than a day or so.
<b>Fertility:</b>	Natural fertility is high, and organic carbon levels are good. All elements are in good supply although sulphur is marginal.
<b>pH:</b>	Slightly alkaline at the surface, strongly alkaline with depth.
<b>Rooting depth:</b>	100 cm in pit.
<b>Barriers to root growth:</b>	
<b>Physical:</b>	No physical barriers.
<b>Chemical:</b>	Very high pH and high boron with depth prevent root growth below 100 cm.
<b>Waterholding capacity:</b>	Approximately 150 mm in rootzone (very high).
<b>Seedling emergence:</b>	Good.
<b>Workability:</b>	Good.
<b>Erosion Potential:</b>	
<b>Water:</b>	Low
<b>Wind:</b>	Low

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> 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.

**Further information:** [DEWNR Soil and Land Program](#)

