

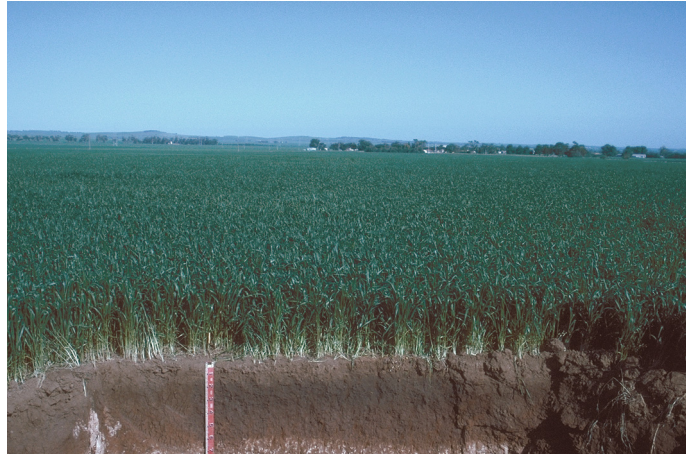
DEEP GRADATIONAL CLAY LOAM

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: Flats and gently sloping outwash fans

Substrate: Alluvial clay, mantled by soft (Class I) carbonate

Vegetation:



Type Site:	Site No.:	CM067	1:50,000 mapsheet:	6629-4 (Halbury)
	Hundred:	Hall	Easting:	274750
	Section:	102	Northing:	6233500
	Sampling date:	23/08/95	Annual rainfall:	445 mm average

Lower slope of very gently inclined fan. Firm surface, no stone, 2% slope.

Soil Description:

Depth (cm)	Description
0-11	Dark reddish brown clay loam with strong granular structure. Clear to:
11-23	Dark reddish brown light medium clay with strong polyhedral structure. Clear to:
23-40	Dark reddish brown medium clay with strong prismatic structure. Clear to:
40-60	Red medium clay with strong coarse prismatic structure. Clear to:
60-100	Yellowish red very highly calcareous medium clay with moderate blocky structure and more than 50% soft carbonate segregations. Diffuse to:
100-160	Yellowish red very highly calcareous medium clay with moderate blocky structure and 20-50% soft carbonate segregations.



Classification: Sodic, Hypercalcic, Red Dermosol; medium, non-gravelly, clay loamy/clayey, very deep.



Summary of Properties

Drainage:	Well drained. The soil is never likely to remain wet for more than a few hours.
Fertility:	Natural fertility is very high (very high CEC and high calcium saturation). Organic carbon levels satisfactory. Need to monitor trace elements.
pH:	Alkaline at the surface, strongly alkaline at depth (surface carbonate and high pH may be due to road dust).
Rooting depth:	100 cm.
Barriers to root growth:	
Physical:	No physical barriers.
Chemical:	High pH (more than 9.2) prevents root growth below 100 cm.
Waterholding capacity:	Approximately 150 mm in rootzone (very high).
Seedling emergence:	Good.
Workability:	Good, but may get sticky when wet.
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 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	8.2	7.7	0.6	0.15	0.61	1.6	88	940	7	2.4	1.30	-	15.6	1.40	25.2	20.94	3.10	0.27	3.01	1.1
0-11	8.1	7.8	0.9	0.13	0.45	1.5	21	958	6	1.5	-	-	-	-	27.2	21.59	3.28	0.25	2.87	0.9
11-23	8.3	7.8	0.3	0.12	0.31	1.0	8	635	3	1.2	-	-	-	-	31.6	25.24	4.22	0.39	2.25	1.2
23-40	8.4	7.8	0.3	0.13	0.25	0.7	7	308	3	0.6	-	-	-	-	37.2	27.59	7.65	1.01	1.46	2.7
40-60	8.5	7.8	0.2	0.17	0.38	0.6	7	354	2	0.7	-	-	-	-	39.2	25.95	10.67	2.26	1.71	5.8
60-100	9.1	8.0	22.9	0.28	0.74	0.3	6	413	10	1.0	-	-	-	-	25.0	13.53	8.97	3.24	1.56	13.0
100-160	9.5	8.1	45.4	0.47	1.52	0.1	6	446	48	4.0	-	-	-	-	18.6	6.26	9.26	4.45	1.29	23.9

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](#)

