

## CALCAREOUS CLAY LOAM

**General Description:** *Dark calcareous clay loam becoming more clayey and calcareous at depth, with abundant soft and nodular carbonate in the lower profile*

**Landform:** Alluvial flats

**Substrate:** Brown mottled clay mantled by carbonate often hardened by the action of fluctuating watertables

**Vegetation:**



<b>Type Site:</b>	Site No.:	CU065	1:50,000 mapsheet:	6630-4 (Spalding)
	Hundred:	Andrews	Easting:	279850
	Section:	345	Northing:	6287500
	Sampling date:	13/5/1996	Annual rainfall:	425 mm average

Alluvial flat between gently undulating rises. Firm surface.

### Soil Description:

Depth (cm)	Description
0-10	Dark brown highly calcareous clay loam with strong granular structure. Clear to:
10-23	Brown highly calcareous light clay with strong polyhedral structure. Clear to:
23-43	Brown (pale brown when dry) highly calcareous medium clay with moderate subangular blocky structure. Gradual to:
43-65	Greyish brown highly calcareous medium clay with blocky structure and 20-50% nodular carbonate. Gradual to:
65-115	Greyish brown highly calcareous medium clay with blocky structure and 20-50% nodular and soft carbonate. Gradual to:
115-135	Brown, yellow and orange mottled moderately calcareous medium clay with blocky structure and 2-10% nodular carbonate.



**Classification:** Melanic, Pedal, Supracalcic Calcarosol; thick, non-gravelly, clay loamy / clayey, deep



## Summary of Properties

**Drainage:** Moderately well drained. Water moves slowly through the profile due to the high clay content, and proximity to the watercourse. Parts of the soil may remain wet for up to a week in winter.

**Fertility:** The natural fertility is high (as indicated by the cation data), due to the high clay content. All major elements are in adequate supply, but zinc appears to be deficient. Organic carbon levels are satisfactory.

**pH:** Alkaline throughout.

**Rooting depth:** Good root growth to 115 cm in pit (with some to 135 cm).

### Barriers to root growth:

**Physical:** None.

**Chemical:** Salt, boron and sodicity levels are relatively low. High pH with depth may affect root growth to some degree.

**Waterholding capacity:** More than 150 mm in the rootzone (very high).

**Seedling emergence:** Good, due to the stable surface structure.

**Workability:** Good.

### Erosion Potential:

**Water:** Low.

**Wind:** 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	8.5	7.8	6	0.17	0.86	1.83	42	969	8.5	2.4	1.38	14	12.3	0.82	22.6	16.9	7.18	0.31	3.49	1.4
0-10	8.4	7.8	6	0.20	1.07	2.13	27	1001	9.4	2.6	-	-	-	-	23.7	16.7	7.54	0.25	3.57	1.1
10-23	8.7	7.9	7	0.14	0.56	1.45	9	830	5.0	2.6	-	-	-	-	21.5	13.0	7.27	0.40	2.36	1.9
23-43	8.9	8.0	24	0.17	0.54	0.68	16	674	6.7	2.5	-	-	-	-	18.9	8.77	10.5	0.54	2.25	2.9
43-65	8.9	8.1	20	0.16	0.51	0.51	6	669	6.7	2.0	-	-	-	-	18.5	6.20	12.7	0.62	2.04	3.4
65-115	9.0	8.2	18	0.17	0.60	0.32	4	622	7.1	2.9	-	-	-	-	17.3	5.85	11.5	0.96	1.81	5.5
115-135	9.0	8.1	7	0.20	0.62	0.19	1	641	7.9	3.0	-	-	-	-	20.9	6.66	12.2	1.49	1.90	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.

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

