

# SHALLOW CALCAREOUS LOAM

**General Description:** *Calcareous silty loam becoming more calcareous with depth overlying soft weathering calcareous fine grained rock*

**Landform:** Upper slopes of undulating to rolling rises and low hills

**Substrate:** Precambrian siltstone mantled by soft carbonate

**Vegetation:**



**Type Site:** Site No.: CM084

1:50,000 sheet: 6630-4 (Spalding)      Hundred: Ayers  
Annual rainfall: 475 mm      Sampling date: 27/02/97  
Landform: Upper slope of an undulating rise, 7% slope  
Surface: Firm with 2-10% siltstone and calcrete fragments

## Soil Description:

Depth (cm)	Description
0-10	Dark reddish brown highly calcareous silty loam with weak granular structure. Clear to:
10-20	Dark reddish brown very highly calcareous silty loam with weak blocky structure and 2-10% calcrete fragments. Clear to:
20-35	Brown very highly calcareous massive silty loam with 20-50% siltstone fragments and 20-50% fine carbonate segregations. Clear to:
35-70	Light grey very highly calcareous massive silty clay loam with more than 50% siltstone fragments and 20-50% fine carbonate segregations. Clear to:
70-80	Weathering siltstone (non calcareous).



**Classification:** Hypervescent, Paralithic, Hypercalcic Calcarosol; moderate, slightly gravelly, silty/silty, moderate

## Summary of Properties

<b>Drainage</b>	Well drained. The soil is never likely to remain saturated for more than a day or so.
<b>Fertility</b>	Natural fertility is moderately low due to low clay content, and tendency for calcareous soils to reduce availability of some nutrient elements. However, test data at this site indicate no deficiencies. Organic carbon levels are also satisfactory.
<b>pH</b>	Alkaline throughout.
<b>Rooting depth</b>	70 cm in pit.
<b>Barriers to root growth</b>	
<b>Physical:</b>	Basement rock is a barrier, but roots will grow into cleavages to extract moisture.
<b>Chemical:</b>	None.
<b>Water holding capacity</b>	Approximately 75 mm in root zone.
<b>Seedling emergence:</b>	Good.
<b>Workability:</b>	Good.
<b>Erosion Potential</b>	
<b>Water:</b>	Moderate, due to the slope. Soil itself is relatively stable, unless pulverized.
<b>Wind:</b>	Moderately low. Calcareous soils powder when dry if overstocked or excessively worked.

## 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> -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	8.2	7.6	10.5	0.15	-	2.0	44	806	9.9	1.7	1.9	6.9	28	4.2	14.0	12.6	1.4	0.11	1.08	0.8
0-10	8.4	7.7	13.5	0.14	-	2.0	36	774	8.1	1.4	1.7	5.8	23	3.9	13.2	12.1	1.4	0.11	1.04	0.8
10-20	8.6	7.8	25.2	0.12	-	1.1	14	626	7.9	1.0	2.1	4.5	9.5	3.9	10.7	9.9	1.2	0.14	0.55	1.3
20-35	8.4	7.7	41.9	0.15	-	1.1	16	424	13.9	1.1	2.0	3.1	5.6	4.0	7.2	8.6	1.2	0.15	0.14	2.1
35-70	8.8	7.9	48.6	0.13	-	0.5	10	439	15.2	0.7	0.9	4.1	3.1	3.5	3.3	3.8	1.2	0.19	0.03	5.8
70-80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**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.