

CALCAREOUS LOAM

General Description: *Calcareous loam, becoming more clayey and calcareous with depth, grading to weathering rock or buried soil*

Landform: Undulating rises.

Substrate: Weathering siltstone. At this site, a buried clay subsoil lies between the modern soil and the rock.

Vegetation:



Type Site: Site No.: CL913

1:50,000 sheet:	6729-4 (Eudunda)	Hundred:	English
Annual rainfall:	300 mm	Sampling date:	21/03/00
Landform:	Upper slope of an undulating rise, 3% slope		
Surface:	Firm with 2-10% siltstone fragments (20-60 mm)		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Reddish brown firm moderately calcareous loam with weak granular structure. Clear to:
12-25	Reddish brown firm massive very highly calcareous loam with 20-50% fine carbonate segregations and 2-10% gneiss fragments (20-60 mm). Clear to:
25-55	Reddish yellow firm very highly calcareous clay loam with weak polyhedral structure, more than 50% fine carbonate segregations and 2-10% siltstone fragments (20-60 mm). Gradual to: -----
55-130	Buried subsoil of an older loam over clay soil formed in weathering rock: Strong brown firm medium clay with strong medium polyhedral structure, 20-50% siltstone fragments and 2-10% fine carbonate segregations.



Classification: Epihypersodic, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, loamy / clay loamy, moderate.

Summary of Properties

Drainage: Well drained. The soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate. Clay and organic carbon levels are favourable for nutrient retention, but free carbonate in the surface reduces availability of phosphorus, copper, manganese and zinc.

pH: Slightly alkaline at the surface, alkaline with depth, and probably strongly alkaline in the deep subsoil.

Rooting depth: 55 cm in the pit, but few roots below 25 cm.

Barriers to root growth:

Physical: There are no physical impediments to root growth.

Chemical: High sodicity, and possibly high pH, salinity and boron concentrations restrict root growth.

Water holding capacity: Approximately 55 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: The calcareous loamy surface is easily worked.

Erosion Potential

Water: Low.

Wind: Moderately 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)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
0-12	8.3	7.9	-	0.12	-	1.93	16	670	4.6	2.4	-	-	-	-	24.5	19.2	3.65	0.22	1.43	0.9	
12-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-55	9.8	8.7	-	0.67	-	-	-	-	-	11.2	-	-	-	-	23.2	8.04	8.34	6.07	0.76	26.2	
55-130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the sum of cations (an estimate of cation exchange capacity).