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 mapsheet:	6729-4 (Eudunda)
Hundred:	English	Easting:	326200
Section:	353	Northing:	6234000
Sampling date:	21/03/00	Annual rainfall:	355 mm average

Upper slope of an undulating rise, 3% slope. Firm surface with 2-10% siltstone fragments (20-60 mm).

Soil Description:

Depth (cm)	*Description*
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.

Waterholding capacity: Approximately 55 mm in the rootzone.

Seedling emergence: Satisfactory.

Workability: The calcareous loamy surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H_2O	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).

Further information: DEWNR Soil and Land Program