CALCAREOUS SALINE SANDY CLAY LOAM
(Magnesia soil)

General Description: *Calcareous sandy loam to sandy clay loam grading to a very highly calcareous sandy clay loam with variable rubble, saline throughout*

Landform: Gently undulating rises.

Substrate: Very highly calcareous medium to fine grained windblown sediments (Woorinen Formation).

Vegetation: Too saline for trees. Annual saltbush and iceplant.

Type Site:

Site No.:	EW073		
1:50,000 sheet:	5634-2 (Coppudurba)	Hundred:	Goode
Annual rainfall:	315 mm	Sampling date:	29/03/93
Landform:	Mid slope of a gently undulating rise, 3% slope		
Surface:	Magnesia patch, c rusted surface with no stones		

Soil Description:

Depth (cm)	*Description*
0-27	Dark brown friable massive moderately calcareous sandy clay loam. Abrupt to:
27-50	Reddish brown soft massive very highly calcareous sandy loam with 20-50% carbonate concretions. Abrupt to:
50-70	Yellowish red soft massive very highly calcareous sandy clay loam with 20-50% fine carbonate segregations. Abrupt to:
70-110	Yellowish red soft very highly calcareous sandy clay loam with weak fine subangular blocky structure, minor carbonate nodules and 2-10% gypsum crystals. Abrupt to:
110-160	Class III C carbonate nodules.

Classification: Epihypersodic, Regolithic, Supracalcic Calcarosol; medium, non-gravelly, clay loamy / clay loamy, deep

Summary of Properties

Drainage Rapidly drained. The soil rarely remains wet for more than a few hours at a time.

Fertility Inherent fertility is moderate, as indicated by the exchangeable cation data, clay content and organic carbon levels. Tested nutrient elements are well supplied, despite the likely reduced availability caused by high carbonate levels. This situation is most likely due to very low productivity on the magnesia patch and consequent low nutrient removal.

pH Alkaline throughout.

Rooting depth 160 cm in pit (salt bush).

Barriers to root growth

Physical: There are no physical barriers.

Chemical: High surface and subsoil salinity is the main cause of poor plant growth. High sodicity and boron concentrations from 27 cm compound the problem.

Water holding capacity Nil for conventional agricultural plants with no effective root zone depth. Over 150 mm for salt tolerant plants with extensive root systems.

Seedling emergence: Poor for salt sensitive plants.

Workability: Firm surface is easily worked.

Erosion Potential

Water: Moderately low.

Wind: Moderate.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	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	
0-27	8.5	8.3	11	3.59	27.90	2.4	45	850	-	11	0.28	3.00	3.80	0.67	21.9	13.42	5.21	3.60	2.52	16.4
27-50	9.1	8.7	36	2.22	17.30	0.5	3	610	-	28	0.25	0.98	1.60	0.32	12.6	5.07	3.81	3.40	1.75	27.0
50-70	9.2	8.6	56	2.60	17.60	-	<2	410	-	35	0.22	2.60	0.94	0.21	9.1	2.77	3.21	3.27	1.04	35.9
70-110	8.7	8.6	39	4.51	19.73	-	<2	490	-	39	0.19	2.60	1.20	0.22	12.0	6.05	3.35	4.86	1.32	40.5
110-160	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-

Note: 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