CALCAREOUS SANDY LOAM
(Penong soil)

General Description: *Calcareous sandy loam to loam grading to a very highly calcareous sandy clay loam with variable rubble, continuing below 120 cm*

Landform: Very gently undulating plain.

Substrate: Very highly calcareous sandy clay loam (Woorinen Formation).

Vegetation:

Type Site: Site No.: EF026

1:50,000 sheet:	5534-3 (Penong)	Hundred:	Bagster
Annual rainfall:	325 mm	Sampling date:	28/10/88
Landform:	Flat		
Surface:	Firm with no stones		

Soil Description:

Depth (cm)	*Description*
0-4	Orange soft massive highly calcareous loam. Abrupt to:
4-9	Orange hard massive highly calcareous sandy clay loam. Abrupt to:
9-30	Orange firm massive highly calcareous clay loam. Gradual to:
30-60	As above with 20-50% carbonate nodules (Class III B carbonate). Gradual to:
60-80	Orange friable massive highly calcareous sandy clay loam.

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

Summary of Properties

Drainage Well drained. The soil is never wet for more than a few days.

Fertility Inherent fertility is moderately low, as indicated by the exchangeable cation data. High carbonate content to the surface reduces the availability of phosphorus, zinc, manganese and copper.

pH Strongly alkaline throughout.

Rooting depth 60 cm in pit.

Barriers to root growth

Physical: There are no physical barriers.

Chemical: High pH from the surface, high sodicity from 30 cm and high boron concentrations from 10 cm combine to limit root growth.

Water holding capacity Approximately 60 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: Surface soil is firm to soft and easily worked.

Erosion Potential

Water: Low.

Wind: Moderately low.

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	
0-4	8.7	7.8	19	0.28	2.94	-	-	-	-	10.50	0.54	2.69	18.9	0.37	16.0	-	3.30	0.74	3.70	5
4-9	9.0	8.0	18	0.60	7.06	-	-	-	-	16.90	0.53	1.77	9.29	0.29	16.0	-	3.40	1.90	4.60	12
9-30	9.2	8.2	32	0.60	6.76	-	-	-	-	21.50	0.52	1.74	6.58	0.16	13.0	-	3.70	2.10	3.70	16
30-60	9.9	8.7	59	0.90	8.23	-	-	-	-	34.60	0.40	1.61	0.97	0.07	8.0	-	4.70	2.60	1.70	33
60-80	9.6	8.7	52	0.88	8.53	-	-	-	-	24.70	0.62	1.30	1.50	0.06	9.5	-	5.20	2.30	1.60	24

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

* Exchangeable calcium (Ca) values not included due to inappropriate laboratory procedure on very highly calcareous samples.