CALCAREOUS LOAMY SAND

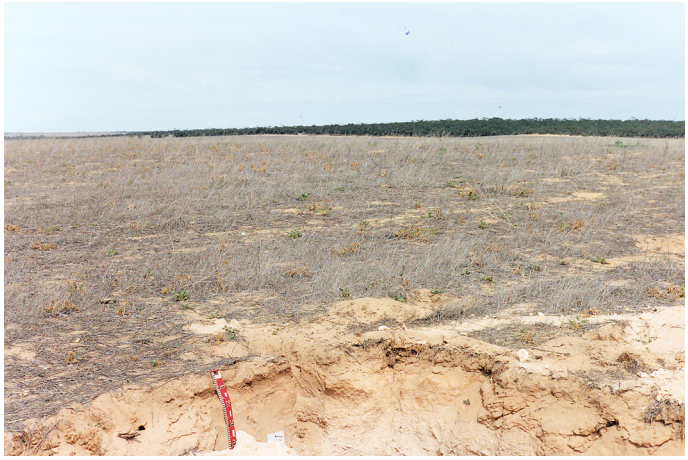
(Shallow Moornaba soil)

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

Landform: Gently undulating low hills.

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

Vegetation: Mallee / tea tree



Type Site:

Site No.:	EF013	1:50,000 mapsheet:	5534-2 (Koonibba)
Hundred:	Catt	Easting:	339350
Section:	13	Northing:	6476550
Sampling date:	17/1/1992	Annual rainfall:	310 mm average

Upper slope of low hill, 3% slope. Loose surface with no stones.

Soil Description:

Depth (cm)	*Description*
0-12	Dark brown loose slightly calcareous sand. Clear to:
12-40	Orange friable moderately calcareous loamy sand. Gradual to:
40-60	Brown friable highly calcareous sandy loam with weak blocky structure. Clear to:
60-100	Light brown soft very highly calcareous light sandy loam with 20-50% carbonate nodules. Gradual to:
100-150	Brownish yellow soft very highly calcareous sandy loam. Gradual to:
150-200	Yellow friable very highly calcareous light sandy clay loam with moderate blocky structure.

Classification: Endohypersodic, Regolithic, Supracalcic Calcarosol; very thick, non-gravelly, sandy / loamy, deep

Summary of Properties

Drainage: Rapidly drained. Soil is never wet for more than a few hours.

Fertility: Inherent fertility is low as indicated by the exchangeable cation data. Low clay and organic matter levels provide little nutrient retention capacity. Regular phosphorus applications are essential - levels are low at sampling site. Nitrogen levels depend on cropping history and medic content of volunteer pastures. Copper and zinc deficiencies may occur - levels are marginal at sampling site.

pH: Alkaline throughout.

Rooting depth: 150 cm in pit.

Barriers to root growth:

Physical: There are no physical barriers.

Chemical: High pH in deep subsoil limits root growth, but 150 cm is as deep as cereal roots can be expected to reach in this environment.

Waterholding capacity: Approximately 120 mm in rootzone.

Seedling emergence: Satisfactory, although water repellence may be a problem in some seasons.

Workability: Loose surface is easily worked

Erosion Potential:

Water: Low.

Wind: Moderate.

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)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-12	8.2	7.9	0.5	0.12	1.2	0.3	17	211	-	0.6	0.1	3	2.6	0.3	3.6	4.2	0.5	0.23	0.60	6
12-40	8.6	8.2	3.8	0.10	0.5	0.3	5	97	-	0.5	0.1	3	0.7	0.2	3.6	4.8	0.8	0.28	0.27	8
40-60	8.7	8.2	14.4	0.10	0.4	0.3	<4	57	-	0.9	0.2	1	0.6	0.2	3.9	5.0	1.5	0.29	0.22	7
60-100	9.0	8.4	26.1	0.16	1.1	0.1	<4	180	-	1.6	0.3	1	0.4	0.1	3.1	3.2	2.0	0.55	0.61	18
100-150	9.7	8.5	29.4	0.55	5.7	0.3	<4	346	-	6.3	0.3	2	0.2	0.1	3.7	1.5	2.0	2.17	1.10	59
150-200	9.8	8.5	31.2	0.92	10.5	0.2	<4	418	-	12.4	0.3	1	0.2	0.2	3.2	1.3	1.6	2.54	1.30	79

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

Further information: DEWNR Soil and Land Program