

DEEP SILICEOUS SAND (Lowan soil)

General Description: *Thick sand with a paler coloured or bleached subsurface layer, grading to a yellow or brown sandy subsoil continuing below 100 cm*

Landform: Gently undulating plain with sandhills.

Substrate: Windblown Moornaba sand.

Vegetation:

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Type Site: Site No.: EL034

1:50,000 sheet: 6029-3 (Cummins)

Hundred: Cummins

Annual rainfall: 475 mm

Sampling date: 15/02/91

Landform: Dune slope

Surface: Loose with no stones

Soil Description:

Depth (cm)	Description
0-10	Very dark greyish brown loose sand. Clear to:
10-20	Greyish brown loose sand. Clear to:
20-110	Light brownish grey loose sand. Diffuse to:
110-150	Light brownish grey loose sand.

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Classification: Basic, Arenic, Grey-Orthic Tenosol; medium, non-gravelly, sandy / sandy, very deep

Summary of Properties

Drainage	Rapidly drained. The soil never remains wet for more than a few hours.
Fertility	Inherent fertility is very low, as indicated by the exchangeable cation data. Low clay content limits nutrient retention capacity, although moderately high organic carbon levels help to hold nutrients. Phosphorus, copper, zinc and probably sulphur are deficient at the sampling site.
pH	Acidic at the surface, neutral with depth.
Rooting depth	Not recorded. Estimate 50 cm in pit.
Barriers to root growth	
Physical:	There are no physical barriers.
Chemical:	There are no chemical barriers, but low nutrient retention capacity and low nutrient status limit root growth.
Water holding capacity	Approximately 40 mm.
Seedling emergence:	Restricted by water repellence in dry seasons - otherwise satisfactory.
Workability:	Loose surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	High.

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 -S 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	
0-10	5.3	5.1	0	0.1	-	0.94	12	-	-	-	0.29	14.6	1.09	0.14	3.2	2.22	0.90	0.23	0.10	na
10-20	5.1	4.8	0	0.0	-	0.20	6	-	-	-	0.26	11.9	0.64	0.17	1.3	0.67	0.09	0.08	0.03	na
20-110	6.1	5.9	0	0.0	-	-	-	-	-	0.2	0.28	1.0	0.41	0.22	1.3	0.89	0.10	0.07	0.02	na
110-150	7.3	6.8	0	0.1	-	-	-	-	-	-	0.79	11.5	18.4	0.24	0.7	0.20	0.08	0.04	0.01	na

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