

DEEP SAND (Moornaba soil)

General Description: *Very thick sand, calcareous and slightly more clayey with depth*

Landform: Longitudinal dunefield.

Substrate: Rubbly carbonate in a sandy matrix (Woorinen Formation overlain by Moornaba Sand).

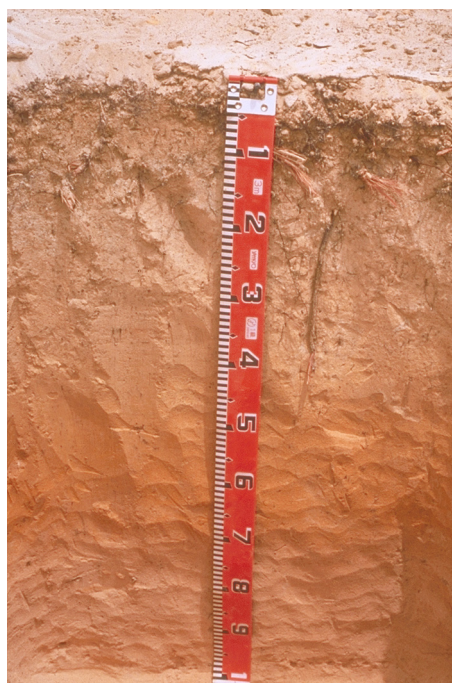
Vegetation: Mallee / Melaleuca

Type Site:	Site No.:	EF020	1:50,000 mapsheet:	5534-3 (Penong)
	Hundred:		Easting:	326350
	Section:		Northing:	6485250
	Sampling date:	23/01/1992	Annual rainfall:	295 mm average

Side slope (3%) of longitudinal dune. Loose surface with no stones.

Soil Description:

Depth (cm)	Description
0-8	Yellowish brown loose sand. Clear to:
8-42	Brownish yellow soft sand. Gradual to:
42-70	Orange firm massive loamy sand. Clear to:
70-100	Yellowish brown friable massive highly calcareous loamy sand. Abrupt to:
100-	Laminar Class IIIC carbonate.



Classification: Calcareous, Petrocalcic, Yellow-Orthic Tenosol; thick, non-gravelly, sandy / sandy, deep



Summary of Properties

Drainage:	Rapidly drained. The soil never remains wet for more than a few hours.
Fertility:	Inherent fertility is low as indicated by the exchangeable cation data. Regular phosphorus applications are necessary. Nitrogen levels depend on cropping history and medic content of volunteer pastures. Zinc, copper and manganese deficiencies are possible. At the sampling site (not on farmland), concentrations of all measured elements are low. Organic carbon levels are also low.
pH:	Alkaline throughout.
Rooting depth:	42 cm in pit.
Barriers to root growth:	
Physical:	There are no physical barriers to root growth.
Chemical:	There are no chemical barriers to root growth other than low nutrient retention capacity and low nutrient status.
Waterholding capacity:	Approximately 40 mm in the rootzone.
Seedling emergence:	Satisfactory, although water repellence may be a problem in dry seasons.
Workability:	Soft / 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 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	
0-8	8.0	7.5	0	0.04	0.3	0.21	3	47	-	0.8	0.12	4.5	1.5	0.08	2.2	1.8	0.3	0.15	0.13	na
8-42	8.3	7.7	0	0.06	0.4	<0.1	3	68	-	0.5	0.06	2.9	0.20	0.04	1.7	1.3	0.4	0.19	0.13	na
42-70	8.4	7.9	1	0.07	0.4	<0.1	3	96	-	0.6	0.10	3.2	0.20	0.04	3.6	3.3	0.8	0.26	0.24	na
70-100	8.6	7.9	7	0.08	0.4	0.17	3	-	-	0.6	0.19	1.7	0.33	0.08	2.4	2.9	0.6	0.24	0.16	na
100+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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](#)

