

WET HIGHLY LEACHED SAND

General Description: *Thick bleached sand with an organically darkened surface over a weakly coherent dark coloured sandy subsoil with a water table*

Landform: Gently undulating sand plain.

Substrate: Windblown sand.

Vegetation:



Type Site: Site No.: SE012

1:50,000 sheet:	7022-2 (Gambier)	Hundred:	Gambier
Annual rainfall:	725 mm	Sampling date:	10/02/93
Landform:	Crest of dune, 1% slope		
Surface:	Soft with no stones. Water table at 155 cm.		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Very dark grey loose water repellent loamy sand. Diffuse to:
15-40	Brown soft single grain fine sand. Diffuse to:
40-67	Brown soft single grain fine sand. Diffuse to:
67-95	Very pale brown soft single grain fine sand. Clear to:
95-121	Dark yellowish brown and dark reddish brown soft single grain loamy fine sand with 2-10% soft iron-organic segregations. Diffuse to:
121-150	Yellowish brown soft single grain loamy fine sand. Diffuse to:
150-155	Pale brown loose wet sand. Water table at 155 cm.



Classification: Fragic, Humosesquic, Semiaquic Podsol; thick, non-gravelly, sandy / sandy, deep

Summary of Properties

Drainage	Imperfectly drained. Water table at 155 cm impedes deep drainage, so the soil may remain wet for several weeks at a time.
Fertility	Inherent fertility is very low as indicated by the exchangeable cation data. Most nutrient retention capacity is attributable to organic matter. All measured nutrient elements are adequately supplied, but subsoil reserves and retention capacity are low.
pH	Acidic throughout.
Rooting depth	150 cm in pit, but most growth is in the top 15 cm.
Barriers to root growth	
Physical:	There are no barriers to root growth, although the iron-organic rich layer can form a pan, effectively blocking deeper root growth.
Chemical:	There are no chemical barriers, but low nutrient status / retention capacity in the subsurface layers restricts growth.
Water holding capacity	Approximately 60 mm in the root zone.
Seedling emergence:	Fair, due to water repellence which can reduce establishment.
Workability:	Soft surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderately 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	
Paddock	5.8	5.4	0	0.07	0.60	1.7	23	110	-	0.4	0.3	32	5.1	2.3	8.7	4.46	0.68	0.01	0.23	na
0-15	5.7	5.3	0	0.11	0.97	1.4	30	78	-	0.4	0.4	32	3.5	2.2	6.9	3.70	0.60	<0.01	0.07	na
15-40	5.3	4.7	0	0.03	0.20	0.35	32	55	-	0.2	0.1	52	0.4	0.2	3.0	0.80	0.18	<0.01	0.05	na
40-67	5.8	5.1	0	0.02	0.09	0.29	21	47	-	0.2	0.1	19	0.1	0.1	2.9	0.65	0.13	0.07	0.08	na
67-95	5.8	5.3	0	0.02	0.09	0.12	7.5	39	-	0.1	<0.1	12	<0.1	0.1	2.0	0.37	0.09	0.06	0.02	na
95-121	5.8	5.2	0	0.03	0.10	0.29	6.0	70	-	0.2	<0.1	20	<0.1	0.2	4.3	0.85	0.29	0.08	0.10	na
121-150	5.9	5.5	0	0.03	0.11	0.14	5.8	31	-	0.2	<0.1	8	<0.1	<0.1	2.5	0.40	0.21	0.09	0.07	na
150+	6.4	5.9	0	0.02	0.13	<0.02	5.5	47	-	<0.1	<0.1	5	<0.1	0.2	1.2	0.19	0.13	0.08	0.04	na

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.

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