

DEEP CALCAREOUS SAND

General Description: *Deep highly calcareous sand to loamy sand comprising mainly crushed shells*

Landform: Gently undulating rises.

Substrate: Shell sand.

Vegetation:



Type Site:	Site No.:	CY020	1:50,000 mapsheet:	6327-4 (Hillock)
	Hundred:	Coonarie	Easting:	703550
	Section:	144	Northing:	6112500
	Sampling date:	24/3/1993	Annual rainfall:	465 mm average

Midslope of rise, 2-3% slope. Soft surface with no stones.

Soil Description:

Depth (cm)	Description
0-7	Brown soft highly calcareous sandy loam. Abrupt to:
7-44	Very pale brown soft highly calcareous loamy sand. Gradual to:
44-110	Light yellowish brown soft very highly calcareous loamy coarse sand. Diffuse to:
110-158	Yellowish brown soft very highly calcareous loamy coarse sand. Clear to:
158-175	Yellowish brown cemented very highly calcareous loamy coarse sand.



Classification: Shelly Calcarosol; thin, non-gravelly, loamy / sandy, very deep



Summary of Properties

- Drainage:** Rapidly to well drained. The soil never remains wet for more than a day.
- Fertility:** The soil's natural capacity to retain nutrients is moderate in the topsoil and low in the subsoil as indicated by the exchangeable cation data. Nutrient availability problems (in particular manganese, phosphorus and zinc) due to the very high free lime content and high pH are characteristic of this soil. Surface fertility relies largely on organic matter levels which are adequate at this site for this soil type.
- pH:** Alkaline throughout.
- Rooting depth:** 100 cm in pit.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
- Chemical:** There are no chemical barriers of a toxic nature. Sub-optimal root growth is more likely to be a symptom of poor nutritional status, in the subsoil, if not the topsoil.
- Waterholding capacity:** Approximately 95 mm in the rootzone, but about a third is effectively unavailable due to low root density in the subsoil.
- Seedling emergence:** Good to fair. Organic matter levels need to be maintained to preserve soil stability.
- Workability:** Good.
- Erosion Potential:**
- Water:** Low.
- Wind:** Moderate to 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 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	8.0	7.6	86	0.28	1.05	3.0	64	291	-	2.2	0.7	14	2.1	0.8	10.8	11.19	0.87	0.17	0.34	12.6
0-7	8.0	7.6	85	0.30	1.23	1.1	60	398	-	2.3	0.7	14	2.5	0.5	11.4	11.23	0.97	0.11	0.28	12.6
7-44	8.4	7.8	92	0.12	0.42	1.7	5	157	-	1.2	0.1	3	0.3	<0.1	3.5	4.94	0.47	0.09	0.05	5.6
44-110	8.7	7.9	89	0.08	0.27	0.3	<4	176	-	0.4	0.1	1	0.1	<0.1	1.0	2.34	0.31	0.08	0.03	2.8
110-158	8.8	8.0	91	0.08	0.34	0.3	4	257	-	0.3	0.1	1	0.1	<0.1	0.9	1.87	0.31	0.12	0.02	2.3
158-175	9.1	8.1	82	0.22	1.29	0.3	4	274	-	2.2	0.1	1	0.3	<0.1	2.2	1.45	1.53	0.59	0.08	3.7

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

Further information: [DEWNR Soil and Land Program](#)

