

HIGHLY CALCAREOUS SANDY LOAM

(Sandy Wookata soil)

General Description: *Thick very highly calcareous sandy loam grading to a very highly calcareous loamy sand with variable hard carbonate nodules*

Landform: Gently undulating rises.

Substrate: Very highly calcareous sand, calcreted in places.

Vegetation:



Type Site:	Site No.:	EC089	1:50,000 mapsheet:	5931-3 (Mount Wedge)
	Hundred:	Talia	Easting:	511580
	Section:	83	Northing:	6294320
	Sampling date:	12/11/1993	Annual rainfall:	385 mm average

Gentle slope of 3%. Firm surface with no stones.

Soil Description:

Depth (cm)	Description
0-40	Dark brown friable very highly calcareous sandy loam. Gradual to:
40-63	Brown soft very highly calcareous loamy coarse sand with 20-50% fine carbonate nodules. Clear to:
63-84	Light brown soft very highly calcareous loamy coarse sand with 10-20% fine carbonate nodules. Clear to:
84-130	Pink soft very highly calcareous loamy fine sand with 2-10% fine carbonate nodules. Abrupt to:
130-	Calcrete.



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



Summary of Properties

- Drainage:** Rapidly drained. The soil never remains wet for more than a few hours.
- Fertility:** Inherent fertility is low, although at this site it is boosted by the favourable surface organic carbon levels which provide additional nutrient retention capacity. Regular phosphorus applications are necessary - concentrations at the sampling site are adequate. Nitrogen levels depend on legume component of pastures and cropping history. The high carbonate concentrations reduce the availability of manganese, copper and zinc, and deficiencies of all three are likely from time to time.
- pH:** Alkaline throughout.
- Rooting depth:** 135 cm in pit, but few roots below 84 cm.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
 - Chemical:** There are no chemical barriers. Low subsoil fertility is the main reason for reduction of root densities with depth (within the wetted zone).
- Waterholding capacity:** Approximately 85 mm in the rootzone.
- Seedling emergence:** Satisfactory.
- Workability:** Firm surface is easily worked.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low.

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	
0-40	8.4	7.9	40.3	0.16	0.66	1.7	26	439	-	1.5	0.6	2	4.5	0.7	14.4	12.6	1.3	0.29	1.54	2.0
40-63	8.4	7.9	60.4	0.21	0.85	0.7	5	96	-	1.3	0.2	2	1.3	0.2	8.5	8.4	1.4	0.54	0.36	6.4
63-84	8.6	8.0	66.1	0.25	1.52	0.2	<4	93	-	1.3	0.2	2	0.8	0.2	6.1	5.7	1.5	0.92	0.34	15.1
84-130	8.8	8.1	81.4	0.25	2.02	0.1	<4	86	-	1.1	<0.1	1	0.3	0.1	2.0	2.5	0.9	0.38	0.20	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.

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

