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:TaliaEasting:511580Section:83Northing: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.

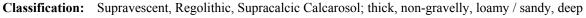
Clear to:

Pink soft very highly calcareous loamy fine sand

with 2-10% fine carbonate nodules. Abrupt to:

130- Calcrete.

Calcrete.







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 CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C	P	K	mg/kg m				ments mg/kg TPA)		CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg mg/kg			Cu	Fe	Mn	Zn	Ca		Mg	Na	K		
0-40	8.4	7.9	40.3	0.16	0.66	1.7	26	439	ı	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	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	ı	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: <u>DEWNR Soil and Land Program</u>

