## SHALLOW CALCAREOUS LOAM

General Description: Stony calcareous loam overlying very highly calcareous decomposing rock, often capped by a thin layer of calcrete

Landform: Upper slopes of undulating

rises and low hills

**Substrate:** Basement siltstone, mantled

by extensive soft carbonate

Vegetation: Casuarina open woodland

CU064 **Type Site:** Site No.:

> 1:50,000 sheet: 6630-4 (Spalding) Hundred: Andrews 13/05/96 Annual rainfall: 450 mm Sampling date:

Landform: Upper slope of an undulating rise, 4% slope Surface: Firm with 10-20% siltstone and calcrete fragments

## **Soil Description:**

Depth (cm) Description

0-10 Moderately calcareous dark brown loam with

moderate crumb structure and 10-20% calcrete

and siltstone fragments. Clear to:

10-20 Highly calcareous dark brown loam with

> moderate polyhedral structure and 10-20% calcrete and siltstone fragments. Sharp to:

20-25 Massive calcrete pan. Clear to:

25-50 Very highly calcareous massive brown loam with

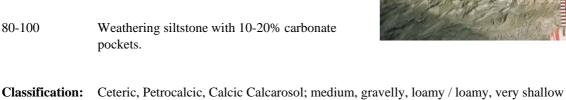
20-50% siltstone fragments and more than 50%

soft carbonate. Gradual to:

50-80 Very highly calcareous pale brown massive silty

loam with 20-50% siltstone fragments and more

than 50% soft carbonate. Gradual to:







## Summary of Properties

**Drainage** Well drained. The soil is never likely to remain wet for more than a day or so.

**Fertility** Natural fertility is moderately low due to the low clay content and high carbonate

content. Phosphorus, potassium, calcium and magnesium are adequate. Trace elements need to be monitored as calcareous soils tend to lock up manganese and

zinc.

**pH** Alkaline throughout.

**Rooting depth** 50 cm in pit, but few roots below 20 cm.

Barriers to root growth

**Physical:** Basement rock at moderately shallow depth. Where continuous, the calcrete pan also

restricts root growth.

**Chemical:** There are no chemical barriers to root growth.

Water holding capacity Approximately 60 mm in root zone.

**Seedling emergence:** Good.

Workability: Good.

**Erosion Potential** 

Water: Moderately low (soil is resistant to erosion and is near the crest of a rise).

Wind: Moderately low. Calcareous soils are prone to erosion if over-grazed or excessively

worked, due to their tendency to powder.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>		EC1:5 dS/m	ECe dS/m	Org.C %	P	Avail. K mg/kg	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	8.3	7.6	4	0.19	1.14	1.88	41	540	12	1.6	0.70	8	18.1	1.11	17.9	16.0	1.61	0.13	1.47	0.7
0-10	8.3	7.6	6	0.16	1.29	2.19	64	520	8.8	1.7	-	-	-	1	17.1	16.9	1.49	0.10	1.44	0.6
10-20	8.5	7.7	11	0.11	0.58	1.44	9	213	6.5	1.3	-	-	-	1	13.3	16.2	1.27	0.15	0.45	1.1
20-25	1	-	-	-	1	-	-	ı	-	-	-	-	-	1	-	-	1	-	- 1	-
25-50	8.8	7.8	49	0.10	0.55	0.55	5	74	11	0.8	-	-	-	1	4.0	6.41	0.71	0.14	0.08	3.5
50-80	8.9	7.8	58	0.11	0.68	0.33	3	87	15	0.3	ı	-	1	1	3.0	4.45	0.94	0.13	0.09	4.3
80-100	9.1	8.0	17	0.10	0.36	0.09	2	81	7	0.2	-	-	-	- 1	1.2	1.80	0.39	0.08	0.00	6.7

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.