SHALLOW CALCAREOUS SANDY CLAY LOAM

General Description: Calcareous sandy loam to sandy clay loam with variable rubble,

becoming more clayey and calcareous with depth

Landform: Gently undulating plains.

Substrate: Calcreted clayey lagoonal

sediments (Padthaway

Formation).

Vegetation: Mallee



Type Site: Site No.: MM079 1:50,000 mapsheet: 6826-1 (Coonalpyn)

Hundred:ConeybeerEasting:398400Section:22Northing:6049100

Sampling date: 1992 Annual rainfall: 450 mm average

Flat, firm surface with 20-50% calcrete stone (60-600 mm).

Soil Description:

Depth (cm) Description

0-8 Very dark greyish brown moderately calcareous

friable granular sandy clay loam with 20-50%

calcrete nodules. Abrupt to:

8-12 Brown moderately calcareous massive friable

sandy clay with 10-20% calcrete nodules. Clear

to:

12-45 Rubbly calcrete with a light brown sandy clay

loam matrix. Gradual to:

White very highly calcareous massive sandy clay

loam with 20-50% calcrete nodules. Diffuse to:

70-120 Yellow and light olive grey highly calcareous

sandy medium clay with coarse angular blocky

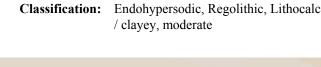
structure. Diffuse to:

120-170 Olive yellow and light olive grey sandy medium

clay with coarse blocky structure and 10-20% soft

calcareous segregations.

Classification: Endohypersodic, Regolithic, Lithocalcic Calcarosol; medium, moderately gravelly, clay loamy



Government of South Australia
Department of Environment,
Water and Natural Resources



Summary of Properties

Drainage: Well to moderately well-drained. Soil is never saturated for more than a week.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data.

Phosphorus and nitrogen deficiencies are widespread. Copper and zinc levels are low

at the sampling site. Manganese shortages are likely.

pH: Alkaline at the surface, strongly alkaline with depth.

Rooting depth: 60 cm in pit.

Barriers to root growth:

Physical: Calcrete rubble impedes root growth to a large extent.

Chemical: High pH from 45 cm restricts root growth.

Waterholding capacity: 55 mm in rootzone.

Seedling emergence: Satisfactory, although surface wetness occasionally reduces plant establishment.

Workability: Fair. Relatively heavy surface is sometimes too wet for effective working.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m		Org.C %	P	Avail. K	mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg		Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	8.5	7.8	4	0.12	0.69	1.3	35	500	1.3	<0.05	4.5	2.8	< 0.06	18.5	14.16	2.34	0.06	1.48	0.3
0-8	8.4	7.8	5	0.12	0.68	1.4	29	660	1.1	0.06	6.2	3.3	< 0.06	16.8	12.74	2.13	0.05	1.83	0.3
8-12	8.5	7.8	3	0.11	0.41	0.8	8	430	1.1	0.4	10	1.5	0.28	21.9	15.96	3.24	0.14	1.40	0.6
12-45	9.0	8.1	43	0.11	0.47	0.4	4	170	1	0.19	6.4	0.41	0.25	7.7	6.50	2.43	0.14	0.54	1.8
45-70	9.6	8.4	58	0.12	0.57	1.4	<2	180	1	0.09	1.5	0.23	0.08	3.9	2.47	2.90	0.36	0.46	9.2
70-120	9.9	8.5	44	0.38	0.75	1.2	<2	590	6.8	0.13	2.3	0.22	< 0.06	16.2	1.57	9.51	4.69	1.61	29.0
120-170	10.0	8.5	17	0.51	0.73	0.3	<2	620	7	0.21	3.5	0.13	<0.06	23.2	1.81	10.93	8.43	1.70	36.3

Note: Paddock sample bulked from 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



