

DEEP CALCAREOUS SHELL SAND (Haslam soil)

General Description: *Very thick very highly calcareous sand with variable carbonate rubble*

Landform: Undulating rises with low sandhills.

Substrate: Windblown sand dominated by crushed shells.

Vegetation:

No landscape image available

Type Site: Site No.: EW074

1:50,000 sheet: 5732-1 (Courela)

Hundred:

Finlayson

Annual rainfall: 340 mm

Sampling date:

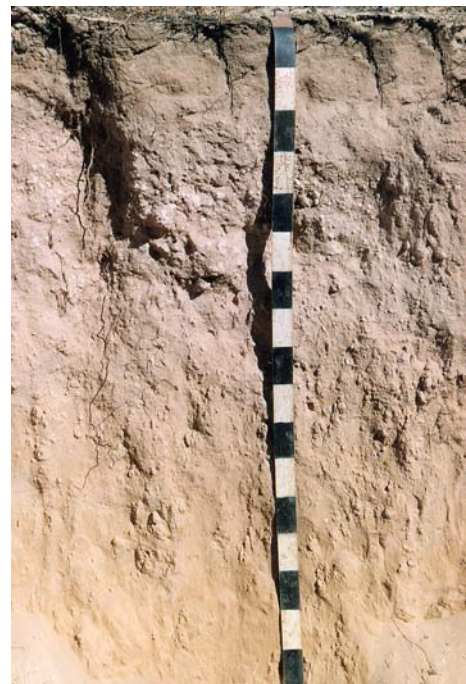
29/03/93

Landform: Midslope of an undulating rise, 3% slope

Surface: Loose with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-11	Brown soft very highly calcareous loamy sand. Clear to:
11-33	Brown soft very highly calcareous loamy sand with 10-20% carbonate concretions (2-6 mm). Diffuse to:
33-66	Light brown soft very highly calcareous sand with 20-50% carbonate concretions (20-60 mm). Diffuse to:
66-100	Light brown soft very highly calcareous sand. Diffuse to:
100-170	Light brown soft very highly calcareous sand.



Classification: Supraescent, Regolithic, Supracalcic Calcarosol; medium, non-gravelly, sandy / sandy, very deep

Summary of Properties

Drainage	Rapidly drained. The soil never remains wet for more than a few hours at a time.
Fertility	Inherent fertility is very low. The soil has very limited nutrient retention capacity. Very high carbonate levels reduce availability of phosphorus, copper, manganese and zinc. Phosphorus applications are needed regularly (deficient at sampling site). Nitrogen levels are probably low, and depend on cropping history. Organic carbon levels are satisfactory.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	170 cm in pit, with few roots below 100 cm.
Barriers to root growth	
Physical:	No physical barriers (apart from excessive drainage).
Chemical:	High pH from 66 cm is slightly limiting to root growth.
Water holding capacity	Approximately 50 mm in the root zone.
Seedling emergence:	Satisfactory.
Workability:	Loose surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderate.

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 -S 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	
0-11	8.6	8.0	75	0.14	0.48	0.9	14	180	-	1.7	0.17	1.60	5.20	0.42	5.9	5.75	0.86	0.05	0.47	1
11-33	9.0	8.1	76	0.10	0.35	0.5	3	130	-	1.6	0.14	0.96	1.70	0.58	4.9	4.18	1.13	0.08	0.30	2
33-66	9.2	8.2	81	0.11	0.37	-	<2	110	-	1.3	0.13	0.63	0.95	0.18	3.8	2.46	1.61	0.14	0.23	4
66-100	9.6	8.2	79	0.22	1.35	-	<2	240	-	4.8	<0.1	0.70	0.38	0.32	2.6	1.02	1.71	0.40	0.55	15
100-170	9.7	8.3	80	0.68	7.85	-	<2	230	-	7.2	<0.1	0.87	0.67	0.24	3.4	1.04	1.26	1.10	0.53	32

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