

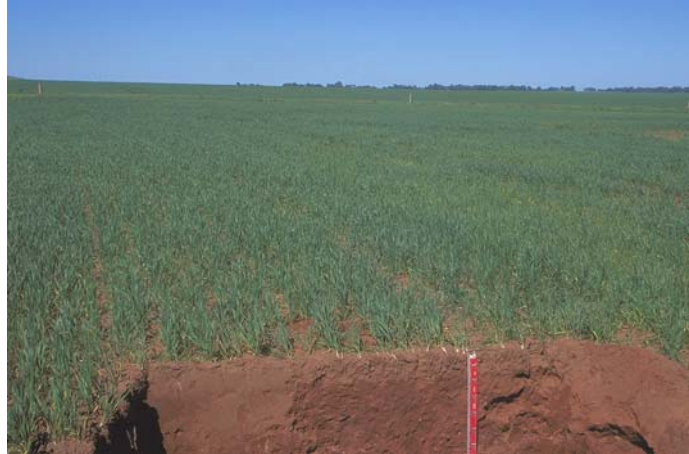
# LOAMY SAND OVER RED MASSIVE SANDY CLAY LOAM

**General Description:** *Thick red gritty sand to sandy loam overlying a weakly structured red gritty sandy clay loam to sandy clay, calcareous with depth*

**Landform:** Gentle slopes

**Substrate:** Medium to coarse textured gritty alluvium

**Vegetation:**

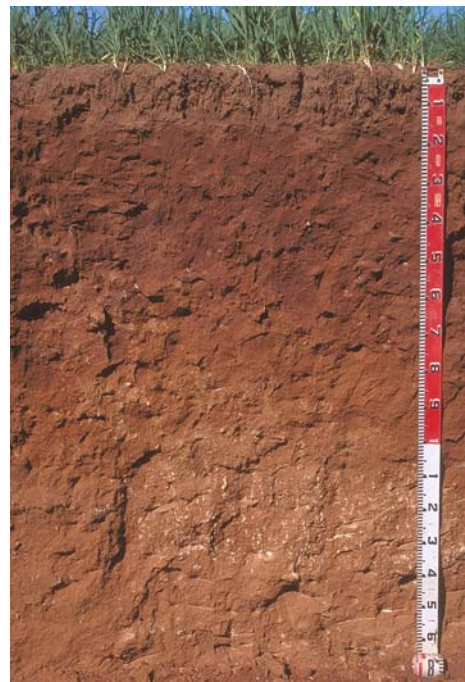


**Type Site:** Site No.: CM058

1:50,000 sheet: 6530-1 (Koolunga)      Hundred: Koolunga  
 Annual rainfall: 400 mm      Sampling date: 18/08/95  
 Landform: Midslope of a gently inclined outwash fan, 3% slope  
 Surface: Soft with no stones

**Soil Description:**

Depth (cm)	Description
0-11	Dark reddish brown soft loamy coarse sand (recent surface wash). Abrupt to:
11-25	Dark reddish brown massive loamy coarse sand. Gradual to:
25-40	Dark red massive loamy coarse sand. Clear to:
40-60	Dark reddish brown coarse sandy clay loam with weak very coarse prismatic structure and 2-10% quartz gravel. Gradual to:
60-90	Dark red coarse sandy clay loam with weak very coarse prismatic structure and 2-10% quartz gravel. Gradual to:
90-120	Dark red massive sandy clay loam with 2-10% quartz gravel. Clear to:
120-160	Red massive highly calcareous sandy clay loam with 2-10% quartz gravel.



**Classification:** Sodic, Calcic, Red Chromosol; medium, non-gravelly, sandy / clay loamy, deep

## Summary of Properties

<b>Drainage</b>	Well drained. The soil is unlikely to remain wet for more than a few days.
<b>Fertility</b>	The natural fertility of the soil is low (as indicated by the exchangeable cation data, and the low clay content). Organic matter is the main nutrient store in the surface soil. Organic carbon levels are low. Magnesium, calcium and sulphur deficiencies are likely. Phosphorus and potassium levels are high.
<b>pH</b>	Slightly acidic at the surface, strongly alkaline with depth.
<b>Rooting depth</b>	160 cm in pit, but few roots below 90 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	Poor subsoil structure.
<b>Chemical:</b>	Low fertility. High pH and sodicity are deeper than the usual depth of rainfall penetration and as such are unlikely to pose a limitation.
<b>Water holding capacity</b>	Approximately 90 mm in root zone (moderate).
<b>Seedling emergence:</b>	Good, provided surface does not seal over - maintain organic matter levels.
<b>Workability</b>	Good.
<b>Erosion Potential</b>	
<b>Water:</b>	Moderate. Sandy surface has low strength and is highly susceptible to erosion.
<b>Wind:</b>	Moderate.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Ext Al mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Paddock	6.3	6.2	0	0.05	0.35	0.6	42	264	6	0.5	0.51	-	14.9	0.89	4.0	3.17	0.67	0.16	0.69	4.0	-
0-11	5.7	4.9	0	0.03	0.38	0.6	43	260	6	0.5	-	-	-	-	3.7	2.05	0.64	0.13	0.62	3.5	1.1
11-25	7.3	7.1	0	0.08	0.41	0.2	12	254	8	0.6	-	-	-	-	4.8	3.13	0.77	0.13	0.66	2.7	-
25-40	7.3	6.9	0	0.03	0.34	0.1	4	200	9	0.7	-	-	-	-	4.3	2.75	0.75	0.15	0.43	3.5	-
40-60	7.6	7.2	0	0.06	0.50	0.2	<4	160	8	1.4	-	-	-	-	8.3	4.61	2.92	0.29	0.82	3.5	-
60-90	7.8	7.2	0	0.06	0.51	0.1	<4	180	8	1.6	-	-	-	-	8.6	4.00	3.73	0.39	0.49	4.5	-
90-120	8.3	7.2	0	0.07	0.63	0.1	<4	222	9	2.2	-	-	-	-	8.5	3.41	4.00	0.89	0.60	10.5	-
120-160	9.5	8.4	5.1	0.24	0.82	0.1	<4	267	24	5.0	-	-	-	-	8.5	3.97	4.74	1.95	0.69	22.9	-

**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.