

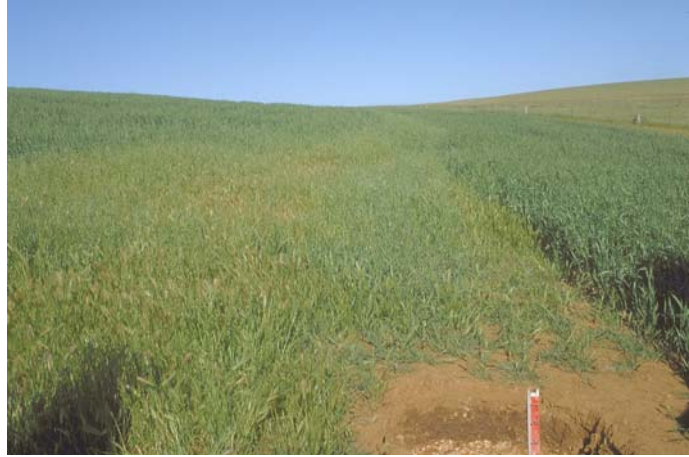
SANDY CLAY LOAM OVER RED CLAY ON ROCK

General Description: *Sandy loam to clay loam overlying a red brown well structured clay, with soft carbonate at the base, forming in weathered siltstone or sandstone*

Landform: Slopes of undulating to rolling rises and low hills

Substrate: Basement sandstone or siltstone of Precambrian age

Vegetation: Blue gum / sheoak woodland



Type Site: Site No.: CM039

1:50,000 sheet: 6630-1 (Burra)

Hundred: Hanson

Annual rainfall: 450 mm

Sampling date: 24/05/93

Landform: Midslope of an undulating low hill, 10% slope

Surface: Hard setting with 10-20% sandstone and siltstone

Soil Description:

Depth (cm)	Description
0-10	Yellowish red massive fine sandy clay loam with 2-10% siltstone fragments. Clear to:
10-25	Dark reddish brown medium clay with strong prismatic structure and 10-20% siltstone and sandstone fragments. Clear to:
25-30	Dark reddish brown very highly calcareous medium clay with more than 50% sandstone fragments. Clear to:
30-60	Weathering basement rock comprising inter-bedded sandstone and shale, with soft carbonate in fissures.



Classification: Haplic, Calcic, Red Chromosol; medium, slightly gravelly, clay loamy / clayey, shallow

Summary of Properties

Drainage	The soil is well drained and is unlikely to remain wet for more than a few days.
Fertility	The natural fertility of the soil is moderate, as indicated by the exchangeable cation data. The surface soil relies on organic matter for its nutrient retention capacity, but the clay subsoil has a high base status due to the content and nature of the clay. Phosphorus is low at the sampling site, as is zinc below 10 cm.
pH	Strongly acidic in the surface, grading to alkaline with depth.
Rooting depth	25 cm in the sampling pit.
Barriers to root growth	
Physical:	The shallow depth to bedrock is the over-riding limitation.
Chemical:	The only apparent chemical limitation is acidity,
Water holding capacity	40 mm in root zone.
Seedling emergence	Fair, due to the tendency of the hard setting surface to seal over if it dries out between seeding and germination.
Workability	The soil has a limited moisture range for effective working.
Erosion Potential	
Water:	Moderate, due to the 10% slope and the moderately high erodibility of the soil.
Wind:	Low.

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	Ext Al mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Paddock	4.8	4.4	0	0.13	1.03	1.9	21	627	-	1.6	1.2	65	50.3	0.5	9.1	4.35	0.91	0.14	0.77	1.5	2.1
0-10	4.7	4.4	0	0.12	1.01	1.7	30	748	-	1.3	1.3	93	50.9	0.7	7.5	3.59	0.90	0.09	0.93	1.2	-
10-25	6.9	6.7	0	0.12	0.52	1.0	4	413	-	4.0	1.6	12	9.9	0.1	23.1	16.47	5.04	0.55	0.80	2.4	-
25-30	8.3	8.0	20.9	0.21	0.61	1.0	4	286	-	6.1	1.4	8	3.3	0.1	31.3	15.00	5.19	0.94	0.59	4.4	-

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.