

LOAM OVER BROWN CLAY

General Description: *Thin to medium thickness loam over brown poorly structured clay, with calcareous lower subsoil*

Landform: Plain

Substrate: Tertiary clay

Vegetation: Buloke woodland



Type Site:	Site No.:	SE106	1:50,000 mapsheet:	7024-1 (Frances)
	Hundred:	Binnun	Easting:	489140
	Section:	147	Northing:	5938040
	Sampling date:	18/08/2008	Annual rainfall:	545 mm average

Level plain. Firm surface with no stones.

Soil Description:

Depth (cm)	Description
0-12	Dark brown weakly structured loam, many roots. Sharp change to:
12-30	Dark brown mottled red and brown sandy light clay with coarse prismatic structure breaking to medium blocky. Gradual change to:
30-45	Light olive brown medium clay, with coarse prismatic structure breaking to medium blocky. Gradual change to:
45-65	Olive brown medium clay with coarse prismatic structure breaking to medium blocky. Abrupt change to:
65-120	Pale brown highly calcareous light clay with weak blocky structure. Sharp change to:
120-150	Olive brown medium clay with weak blocky structure and 10-20% fine carbonate segregations.



Classification: Sodic, Hypercalcic, Brown Chromosol; medium, non-gravelly, loamy / clayey, deep



Summary of Properties

Drainage:	Imperfectly drained. Upper profile may remain wet for several weeks following heavy or prolonged rainfall.
Fertility:	Inherent fertility is moderately high as indicated by the exchangeable cation data. Extractable phosphorus is very high, reflecting a good fertiliser history. Most other measured nutrient elements appear to be in adequate supply.
pH:	Alkaline throughout. Strongly alkaline below 45 cm.
Rooting depth:	Main rootzone above 65 cm. Some roots to 120 cm.
Barriers to root growth:	
Physical:	Coarse clay subsoil structure, combined with a tendency to become saturated for extended periods during wet years, will reduce subsoil root development.
Chemical:	Strong alkalinity and high lime content below 65 cm are likely to restrict root growth.
Waterholding capacity:	Approximately 100 mm of plant available water in the main rootzone.
Seedling emergence:	Good to fair. May become hard setting if over cultivated.
Workability:	Fair. Tends to become soft and boggy when wet.
Erosion Potential:	
Water:	Low.
Wind:	Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Cl mg/kg	Org.C %	NO ₃ + NH ₄ mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP	
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
0-12	7.9	7.4	0	0.1	0.81	6	1.96	13	86	183	35.2	0.8	0.32	71.9	0.94	2.92	16.7	15.0	1.16	0.13	0.4	0.8	
12-30	8.7	7.6	0	0.1	0.73	10	0.36	5	6	135	52.9	0.8	0.33	30.9	2.7	0.84	15.5	10.7	4.2	0.30	0.3	1.8	
30-45	8.1	7.5	0	0.1	0.58	9	0.30	6	4	130	27.1	1.0	0.21	10.5	1.27	0.45	14.2	8.6	5.0	0.30	0.3	2.2	
45-65	8.9	8.3	1	0.1	0.66	6	0.27	5	2	131	24.6	1.5	0.16	5.29	0.49	0.22	18.7	9.8	7.9	0.59	0.4	3.2	
65-120	9.6	8.6	55	0.2	0.97	10	0.27	5	2	124	52.2	2.3	0.11	3.81	0.34	0.43	24.2	12.3	9.7	1.93	0.3	8.0	
120-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), 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. Soil results are from a single point sample and are indicative only. They may not reflect the general condition of the rest of the paddock. Also, plant responses relating to nutrition measurements can vary between soil types and plant species, so values are indicative only.

Further information: [DEWNR Soil and Land Program](#)

