

WET CLAY SOIL

General Description: *Medium to fine textured soil prone to saturation for several months per year*

Landform: Level plain.

Substrate: Lacustrine clay.

Vegetation:



Type Site: Site No.: SE059
1:50,000 sheet: 7023-3 (Monbulla) Hundred: Monbulla
Annual rainfall: 760 mm Sampling date: 02/04/97
Landform: Flat plain, 0% slope
Surface: Firm, seasonally cracking with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-5	Black soft fine sandy clay loam. Abrupt to:
5-21	Black very hard medium clay with coarse prismatic structure. Diffuse to:
21-57	Black hard fine sandy medium clay with coarse prismatic structure. Diffuse to:
57-95	Light brownish grey, grey and yellowish brown mottled hard light medium clay with coarse prismatic structure. Abrupt to:
95-126	Light olive grey and olive yellow mottled firm medium clay with coarse prismatic structure and 10-20% fine calcareous segregations. Abrupt to:
126-160	Light brownish grey and olive yellow mottled firm massive medium clay. Gradual to:
160-175	Grey and yellowish brown mottled firm massive medium clay with 2-10% calcareous nodules.



Classification: Melanic-Vertic, Dermosolic, Redoxic Hydrosol; thin, non-gravelly, clay loamy/clayey, very deep

Summary of Properties

- Drainage:** Poorly drained. The soil may remain saturated for several months or more each year due to a combination of low lying position, water table at depth (not recorded in pit), and clayey texture.
- Fertility:** Inherent fertility is high. The high clay content and high organic matter levels provide ample nutrient retention capacity. Concentrations of all tested nutrient elements are adequate
- pH:** Neutral at the surface, alkaline with depth.
- Rooting depth:** 175 cm in pit, but few roots below 120 cm.
- Barriers to root growth:**
- Physical:** The coarsely structured clay limits root density, because most roots are confined to the surfaces of aggregates.
- Chemical:** There are no apparent chemical barriers.
- Water holding capacity:** About 200 mm in the potential root zone.
- Seedling emergence:** Fair. Cracking can damage or kill seedlings if surface dries during emergence.
- Workability:** The heavy surface becomes sticky and boggy when wet. Waterlogging limits access for extended periods.

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	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	
Paddock	6.9	6.3	-	0.41	-	5.58	28	281	32	2.7	1.16	27	10.5	0.75	-	37.2	5.16	1.46	0.75	3.3
0-5	7.0	6.8	-	0.51	-	5.32	58	494	39	4.2	0.94	27	14.6	1.6	-	43.8	5.34	1.52	1.17	2.9
5-21	7.7	7.2	-	0.24	-	2.86	12	284	17	1.5	0.59	13	4.0	0.10	-	27.2	4.49	1.52	0.69	4.5
21-57	8.3	7.8	-	0.45	-	0.79	3	320	31	0.5	0.53	9.6	0.54	0.16	-	21.4	4.24	2.54	0.77	8.8
57-95	8.3	7.7	-	0.51	-	0.18	1	350	38	0.4	0.29	4.9	0.46	0.11	-	17.9	4.82	3.50	0.90	12.9
95-126	8.7	8.0	-	0.25	-	0.09	1	244	11	0.4	0.27	4.7	0.91	0.03	-	17.2	3.69	1.58	0.64	6.8
126-160	8.5	7.9	-	0.12	-	0.05	4	291	4.2	0.4	0.31	4.8	0.67	0.17	-	15.5	3.16	0.83	0.70	4.1
160-175	8.5	7.9	-	0.16	-	0.01	1	265	4.0	0.4	0.18	2.8	0.75	0.02	-	17.6	3.49	0.87	0.69	3.8

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. CEC at this site is estimated from the sum of exchangeable cations.