

CLAY LOAM OVER POORLY STRUCTURED RED CLAY

General Description: *Hard setting clay loam abruptly overlying a coarsely structured dispersive red clay, weakly calcareous at depth*

Landform: Alluvial flats and outwash fans.

Substrate: Fine textured alluvium.

Vegetation:



Type Site:	Site No.:	CM903	1:50,000 mapsheet:	6630-4 (Spalding)
	Hundred:	Ayres	Easting:	290750
	Section:	442	Northing:	6273450
	Sampling date:	March 1990	Annual rainfall:	460 mm average

Flat between undulating low hills, 1% slope. Hard setting surface with no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Reddish brown hard clay loam with weak granular structure. Clear to:
10-20	Yellowish red hard clay loam with weak granular structure. Abrupt to:
20-45	Dark reddish brown hard medium clay with strong very coarse prismatic structure. Gradual to:
45-75	Dark reddish brown hard medium heavy clay with strong very coarse prismatic structure. Gradual to:
75-95	Reddish brown hard moderately calcareous light medium clay with moderate coarse prismatic structure. Gradual to:
95-120	Red hard slightly calcareous light medium clay with strong coarse angular blocky structure.



Classification: Hypocalcic, Red Sodosol; medium, non-gravelly, clay loamy / clayey, deep



Summary of Properties

- Drainage:** Moderately well drained. Water perches on the dispersive clay subsoil for up to a week following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is high due to relatively high surface clay content and organic matter levels.
- pH:** Slightly alkaline at the surface (possible road dust effect), to alkaline with depth.
- Rooting depth:** Lucerne roots continuing below 120 cm.
- Barriers to root growth:**
- Physical:** The hard coarsely structured subsoil restricts root density by confining most roots to aggregate surfaces, rather than allowing penetration.
 - Chemical:** There are no apparent chemical barriers.
- Waterholding capacity:** Approximately 150 mm in the upper 120 cm of soil.
- Seedling emergence:** Fair. Hard setting surface tends to seal over, providing a barrier to emerging seedlings.
- Workability:** Fair. The hard poorly structured surface tends to shatter if worked too dry, and to puddle if worked too wet.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Boron mg/kg
0-10	7.9	7.0	0	0.15	-	1.37	46	2.1
10-20	7.9	6.9	0	0.10	-	0.60	12	1.8
20-45	7.8	6.6	0	0.17	-	0.49	4	7.8
45-75	8.8	7.5	-	0.25	-	0.41	7	11.2
75-95	9.2	7.8	3	0.30	-	0.19	6	11.4
95-120	9.0	7.9	-	0.40	-	0.21	7	11.1

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

