GRADATIONAL CLAY LOAM

General Description: *Clay loam to light clay grading to a well structured red clay, calcareous with depth*

Landform: Gently inclined fans and plains.

Substrate: Clayey alluvium, mantled by fine carbonate.

Vegetation:

Type Site:

Site No.:	CM901	1:50,000 mapsheet:	6630-4 (Spalding)
Hundred:	Milne	Easting:	283950
Section:	545	Northing:	6270400
Sampling date:	10/04/1990	Annual rainfall:	500 mm average

Upper slope of alluvial fan, 3% slope. Self-mulching surface with no stones.

Soil Description:

Depth (cm)	*Description*
0-25	Dark reddish brown hard light clay with moderate granular structure. Clear to:
25-50	Dark reddish brown hard medium heavy clay with strong medium polyhedral structure. Clear to:
50-100	Yellowish red hard very highly calcareous medium clay with moderate polyhedral structure, more than 50% fine carbonate segregations and 2-10% quartz gravel (60-200 mm). Diffuse to:
100-150	Red very hard highly calcareous heavy clay with strong coarse prismatic structure, more than 50% fine carbonate segregations and 2-10% quartz gravel (60-200 mm).

Classification: Sodic, Hypercalcic, Red Dermosol; medium, non-gravelly, clayey / clayey, deep

Summary of Properties

Drainage: Moderately well drained. The soil may remain wet for up to a week following heavy or prolonged rainfall, mainly due to its clayey texture.

Fertility: Inherent fertility is high, a result of high clay content, satisfactory organic matter levels and neutral pH.

pH: Neutral at the surface, alkaline with depth.

Rooting depth: 70 cm in pit.

Barriers to root growth:

Physical: There are no significant physical barriers, although the overall moderate to high strength of the soil restricts root growth to some extent.

Chemical: There are no apparent chemical barriers, although root growth in highly calcareous clay layers is generally poor.

Waterholding capacity: Approximately 110 mm in the rootzone.

Seedling emergence: Satisfactory, provided that surface structural condition is maintained.

Workability: The surface soil tends to become sticky when wet.

Erosion Potential:

Water: Moderately low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	CO_3 %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Boron mg/kg
0-25	7.0	6.3	3	0.23	-	1.31	14	2.5
25-50	7.3	6.7	3	0.18	-	0.97	8	2.5
50-100	8.2	7.5	33	0.19	-	0.56	5	2.5
100-150	8.8	7.9	53	0.20	-	0.34	3	3.4

Further information: DEWNR Soil and Land Program