GRADATIONAL CLAY LOAM

Clay loam to light clay grading to a well structured red clay, General Description:

calcareous with depth

Landform: Gently inclined fans and

plains.

Substrate: Clayey alluvium, mantled by

fine carbonate.

Vegetation:



Site No.: CM901 **Type Site:**

> 1:50,000 sheet: 6630-4 (Spalding) Hundred: Milne 10/04/90 Annual rainfall: 475 mm Sampling date:

Landform: Upper slope of alluvial fan, 3% slope Surface: Self-mulching 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

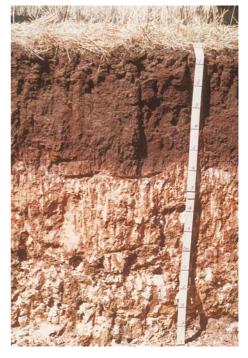
> medium clay with moderate polyhedral structure, more than 50% fine carbonate segregations and 2-

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.

Water holding capacity: Approximately 110 mm in the root zone.

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 ₂ O | 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 |