

CALCAREOUS LOAM OVER CLAY

General Description: *Calcareous loam becoming more calcareous with depth, overlying substrate clay within 120 cm.*

Landform: Level to gently undulating plains and fans.

Substrate: Red, coarsely structured Tertiary (Hindmarsh) clay.

Vegetation: Mallee.



| | | | | |
|-------------------|----------------|----------|--------------------|-----------------|
| Type Site: | Site No.: | CL909 | 1:50,000 mapsheet: | 6529-2 (Dublin) |
| | Hundred: | Grace | Easting: | 268400 |
| | Section: | 579 | Northing: | 6186450 |
| | Sampling date: | 08/03/91 | Annual rainfall: | 385 mm average |

Level plain, 0% slope. Firm surface with no stones.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-6 | Brown firm highly calcareous loam with weak granular structure. Clear to: |
| 6-15 | Brown firm massive very highly calcareous loam. Clear to: |
| 15-75 | Strong brown firm massive very highly calcareous loam with more than 50% fine carbonate segregations. Diffuse to: |
| 75-140 | Strong brown hard highly calcareous medium clay with moderate coarse angular blocky structure and 20-50% fine carbonate segregations. |



Classification: Hypervescent, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, loamy / clayey, moderate



Summary of Properties

Drainage: Well drained. The soil rarely remains wet for more than a day or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate. Nutrient retention capacity is favourable, but high surface carbonate content reduces availability of phosphorus, copper, zinc, manganese and iron.

pH: Alkaline at the surface, strongly alkaline with depth.

Rooting depth: 68 cm in pit but few roots below 15 cm.

Barriers to root growth:

Physical: There are no physical barriers above the substrate clay.

Chemical: High pH, high boron concentrations and probable high sodicity restrict root growth.

Waterholding capacity: Approximately 45 mm in the potential rootzone.

Seedling emergence: Satisfactory.

Workability: Calcareous loamy soils are easily worked over a wide range of moisture levels.

Erosion Potential:

Water: Low.

Wind: Moderately 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 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 | |
| 0-6 | 8.4 | 7.8 | 17 | 0.16 | - | 1.96 | 43 | 820 | - | - | 0.9 | 4.9 | 20.9 | 0.6 | - | - | - | - | - | - |
| 6-15 | 8.4 | 7.7 | 19 | 0.18 | - | 1.31 | 16 | 560 | - | - | 0.9 | 4.0 | 6.3 | 0.2 | - | - | - | - | - | - |
| 15-75 | 9.3 | 8.1 | 37 | 0.30 | - | 0.35 | 3 | 170 | - | 13 | 1.2 | 3.3 | 1.6 | 0.0 | - | - | - | - | - | - |
| 75-140 | 9.6 | 8.3 | 7 | 0.79 | - | 0.06 | 1 | 440 | - | 32 | 0.7 | 5.7 | 1.6 | 0.0 | - | - | - | - | - | - |

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

