SANDY LOAM OVER RED OR BROWN CLAY ON ROCK

(Laube soil)

General Description: *Loamy sand to loam over a red or brown blocky clay, calcareous with depth, grading to weathering basement rock.*

Landform: Undulating to rolling low hills.

Substrate: Schists and gneisses of the Flinders Group.

Vegetation:

Type Site:

Site No.:	EL142	50,000 mapsheet:	6028-1 (Lincoln)
Hundred:	Louth	Easting:	578850
Section:	137	Northing:	6175500
Sampling date:	1982	Annual rainfall:	455 mm average

Upper slope in a landscape of undulating low hills, 6% slope.

Soil Description:

Depth (cm)	*Description*
0-9	Dark brown loamy sand with granular structure and 2-10% gneiss fragments (10-50 mm). Clear to:
9-22	Very dark greyish brown sandy loam with granular structure and 10-25% gneiss fragments (10-50 mm). Clear to:
22-70	Dark brown medium clay with blocky structure and 2-10% gneiss fragments (10-50 mm). Clear to:
70-130	Yellowish brown mottled calcareous light clay with 25-50% schist fragments (100-300 mm) and 20-50% fine carbonate.

Classification: Haplic, Hypercalcic, Brown Chromosol; medium, slightly gravelly, sandy / clayey, deep

Summary of Properties

Drainage: Moderately well drained. Water perches on the clayey subsoil for a week or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. Nutrient retention capacity is limited by the low clay content of the surface soil, but the subsoil has a large retention capacity. Phosphate levels are low, as is zinc concentration in the subsoil clay. Organic carbon levels are satisfactory.

pH: Slightly alkaline at the surface, alkaline with depth.

Rooting depth: Not recorded. Estimate 70 cm in pit.

Barriers to root growth:

Physical: The clayey subsoil from 22 cm restricts root growth to some extent.

Chemical: There are no apparent chemical barriers apart from low zinc availability in the subsoil.

Waterholding capacity: Approximately 90 mm in the rootzone.

Seedling emergence: Satisfactory.

Workability: Satisfactory, although hard setting may be a problem in places.

Erosion Potential:

Water: Moderate.

Wind: Low.

Laboratory Data

Depth cm	Sand %	Silt %	Clay %	pH H_2O	pH $CaCl_2$	CO_3 %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-9	84	7	9	7.7	-	1.0	0.09	0.75	1.67	18	0.46	73	32.3	0.50	12.0	7.0	1.0	0.07	0.89	0.6
9-22	77	11	12	7.5	-	0.8	0.06	0.80	0.74	10	1.38	22	10.0	0.50	9.3	6.6	1.3	0.09	0.34	1.0
22-70	28	4	68	7.6	-	1.8	0.07	0.22	0.73	4	0.94	23	2.6	0.16	47.0	24.0	10.0	1.50	1.40	3.2
70-130	49	19	32	9.0	-	34.5	0.21	0.64	-	-	-	-	-	-	23.0	14.5*	6.6	1.30	0.53	5.7

Note: 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.

* Estimated value

Further information: DEWNR Soil and Land Program