

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 sheet: 6028-1 (Lincoln)	Hundred: Louth	
	Annual rainfall: 475 mm	Sampling date: 1982	
	Landform: Upper slope in a landscape of undulating low hills, 6% slope		
	Surface: Soft with up to 10% gneiss fragments		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
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.
Water holding capacity	Approximately 90 mm in the root zone.
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 ₂ O	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