

SANDY LOAM OVER YELLOW CLAY

General Description: *Sandy loam with a paler coloured subsurface layer, overlying a yellow and brown mottled clayey subsoil, calcareous with depth*

Landform: Gently undulating plain

Substrate: Medium to fine textured
Tertiary age sediment.

Vegetation:



Type Site: Site No.: SE114

1:50,000 sheet:	7023-1 (Struan)	Hundred:	Joanna
Annual rainfall:	600 mm	Sampling date:	16/10/06
Landform:	Rise on gently undulating plain, 1% slope.		
Surface:	Firm with no stones.		

Soil Description:

Depth (cm)	Description
0-10	Very dark greyish brown friable sandy loam with moderate granular structure. Clear to:
10-35	Dark greyish brown and yellowish brown firm massive sandy loam (grading to sandy clay loam on left side of sampling pit). Clear to:
35-65	Brownish yellow, brown and reddish brown mottled hard light medium clay with coarse prismatic, breaking to strong polyhedral structure. Diffuse to:
65-115	Brownish yellow, brown and yellowish red hard light medium clay with very coarse prismatic structure. Gradual to:
115-150	Brownish yellow, light grey and brown mottled extremely hard light medium clay with moderate coarse blocky structure and 10-20% veins of fine carbonate.



Classification: Hypocalcic, Mottled-Subnatric, Yellow Sodosol; thick, non-gravelly, loamy / clayey, very deep

Summary of Properties

- Drainage:** Moderately well drained. The profile may remain wet for up to a week following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is low, as indicated by the exchangeable cation data and relatively low content of the surface. However, there is ample nutrient retention capacity in the subsoil. In the sampling pit, levels of copper and zinc appear to be low.
- pH:** Acidic at the surface, alkaline with depth.
- Rooting depth:** 65 cm in sampling pit, but few roots below 35 cm.
- Barriers to root growth:**
- Physical:** The coarsely structured subsoil prevents the development of efficient root systems, but does not exclude root growth.
 - Chemical:** Mild aluminium toxicity in the subsurface.
- Water holding capacity:** Approximately 60 mm in the potential root zone.
- Seedling emergence:** Satisfactory.
- Workability:** Satisfactory.

Erosion Potential

- Water:** Low.
- Wind:** Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Cl mg/kg	Org.C %	NO ₃ + NH ₄ mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S mg/kg	React Fe mg/kg	Ext Al mg/kg	Boron mg/kg	Trace Elements mg/kg (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
															Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-10	5.8	4.7	0	0.03	0.46	7	1.78	14	29	167	4	1183	0	0.6	0.14	520	7.65	0.58	3.1	1.89	0.37	0.37	0.5	na
10-35	5.4	4.4	0	0.04	0.44	13	0.71	15	17	110	5.1	1361	6.7	0.5	0.11	363	5.38	0.21	2.6	1.57	0.35	0.38	0.3	na
35-65	6.1	5.3	0	0.07	0.37	17	0.45	24	1	210	37	2248	0	1.6	0.47	52	27.1	0.16	23.8	8.69	13.0	1.48	0.61	6.2
65-115	6.9	5.9	0	0.06	0.25	12	0.12	16	1	88	24	1979	0	2.2	0.18	24	2.86	0.15	20.4	6.00	12.3	1.87	0.27	9.2
115-150	8.4	7.3	0	0.17	0.51	11	0.10	11	1	74	11	1849	0	4.2	0.13	20	12.1	0.59	25.0	9.82	12.5	2.43	0.22	9.7

Note: Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), 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, in this case estimated by the sum of cations.