

ACIDIC SANDY LOAM OVER BROWN CLAY ON ROCK

General Description: *Sandy to loamy surface soil with variable stone and gravel, overlying a brown, yellow and red, well structured clay subsoil, grading to weathering schist or micaceous sandstone.*

Landform: Slopes of undulating to rolling low hills of the north-eastern Mount Lofty Ranges

Substrate: Weathering sandy schists or micaceous sandstones of the Backstairs Passage Formation

Vegetation: Red gum woodland



Type Site: Site No.: CH029

1:50,000 sheet: 6728-3 (Tepko)

Hundred: Tungkillo

Annual rainfall: 600 mm

Sampling date: 12/01/93

Landform: Upper slope of rolling low hills, 12% slope

Surface: Firm surface with minor outcrop and surface boulders of metasandstone

Soil Description:

Depth (cm)	Description
0-10	Dark greyish brown massive sandy loam. Gradual to:
10-30	Dark greyish brown massive sandy loam. Diffuse to:
30-50	Dark brown massive heavy sandy loam with 10% metasandstone gravel. Abrupt to:
50-75	Very dark grey, yellowish brown and dark red medium heavy clay with strong coarse angular blocky structure, and up to 50% metasandstone fragments. Abrupt to:
75-100	Hard micaceous sandstone.



Classification: Haplic, Eutrophic, Black Kurosol; thick, slightly gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Moderately well drained. The soil is unlikely to remain wet for more than a week or so.
Fertility	High natural fertility, as indicated by the high cation exchange capacity of the subsoil. Magnesium is low relative to calcium and potassium, and copper is deficient. Phosphorus levels are marginal. Organic carbon levels are high.
pH	Acidic throughout. Dolomite is required for correction.
Rooting depth	75 cm in pit (i.e. to rock).
Barriers to root growth	
Physical:	Shallow depth to rock.
Chemical:	Acidity will restrict root growth if pH falls further.
Water holding capacity	90 mm in pit (moderate), but this is dependent on depth to rock.
Seedling emergence	Good.
Workability	Good to fair, depending on rock and stone cover, which can be extensive with this soil.
Erosion Potential	
Water:	Moderately high, due to the slope.
Wind:	Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CaCO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S mg/kg	Boron mg/kg	Trace Elements mg/kg (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.7	5.2	0	0.07	0.31	2.4	24	380	-	1.2	1.32	370	59	9.1	11.2	9.16	1.78	0.17	0.65	1.5
0-10	5.6	4.9	0	0.05	0.23	1.8	10	420	-	0.7	-	-	-	-	7.4	5.05	1.02	0.16	0.57	2.2
10-30	5.2	4.5	0	0.03	0.13	0.69	5	360	-	0.5	-	-	-	-	5.8	2.78	0.80	0.17	0.49	2.9
30-50	5.2	4.5	0	0.03	0.12	0.40	5	380	-	0.4	-	-	-	-	5.4	2.93	1.12	0.24	0.43	4.4
50-75	5.2	4.6	0	0.06	0.13	0.84	5	520	-	1.5	-	-	-	-	20.0	8.64	7.52	0.47	0.99	2.4

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.

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.