

DE6: Melanic-Acidic, Dystrophic, Brown Dermosol

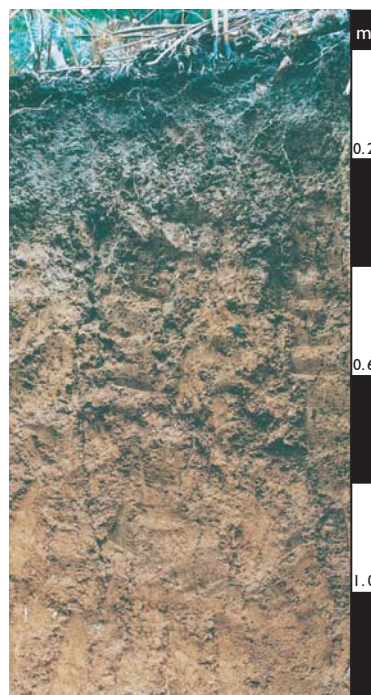
General description of the soil

A structured Brown Dermosol in which the major part of the B horizon has a very low base status (i.e. Dystrophic) and is strongly acid (pH<5.5). A thick, dark A1 horizon is present (i.e. Melanic).

Distribution:	Widespread in north and north-east Tasmania and probably also common in similar environments on the south-east of the mainland.
Typical land use:	Hardwood forestry.
Common variants:	Similar soils in drier environments have coarser textures, and in wetter sites peaty horizons may overlie the A1 horizon.
World Reference Base:	Umbric Acrisol (incomplete data).
Other names:	Brown Podzolic Soils.

Environment and location of the example profile

Landform:	Rolling hills.
Parent material or substrate:	Granitic rocks.
Drainage class:	Well-drained.
Surface condition:	Soft.
Site disturbance:	Logging.
Native vegetation:	Wet sclerophyll forest dominated by <i>Eucalyptus</i> and <i>Acacia</i> species.

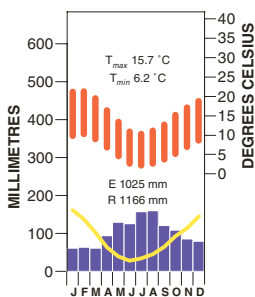


North-east of Launceston, Tasmania

Site location



Site climate



Soil morphology

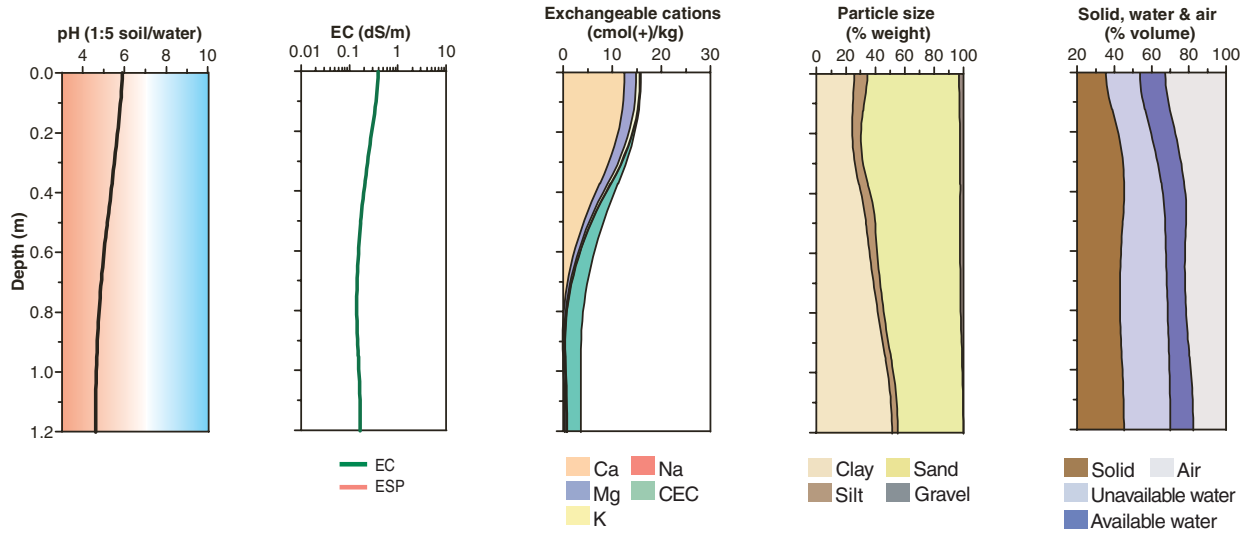
Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A11	0.00–0.12	black (10YR 2/1)	–	coarse sandy clay loam	moderate	granular	2–5 mm	very weak (moist)	<2% angular quartz (2–6 mm)	–	gradual
A12	0.12–0.37	very dark greyish brown (10YR 3/2)	–	coarse sandy clay loam	moderate	granular	2–5 mm	weak (moist)	<2% angular quartz (2–6 mm)	–	gradual
B1	0.37–0.50	brown/dark brown (10YR 4/3)	–	clay loam, coarse sandy	moderate parting to strong	angular blocky parting to granular	20–50 mm parting to <2 mm	weak (moist)	<2% quartz (2–6 mm)	–	diffuse
B2t	0.50–0.95	dark yellowish brown (10YR 4/4)	–	coarse sandy light clay	moderate	angular blocky parting to granular	20–50 mm parting to <2 mm	weak (moist)	<2% angular quartz (2–6 mm)	–	gradual
BC	0.95–1.20+	red (2.5YR 4/8)	2–10% olive brown (2.5Y 4/3) distinct (5–15 mm)	clay loam, coarse sandy	–	–	–				

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C % ^A	Extr. P mg/kg	Tot. P %	Tot. K %	Cation exchange properties ^A						ESP %	Bulk dens. Mg/m ³	Particle size % ^D			
										cmol(+)/kg								CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC						
A11	0.00–0.12	5.9		0.40		5.3				12.0	2.3	0.8	0.1	0.1		15	–	0.9	65	9	26
A12	0.12–0.37	5.6		0.25		3.0												1.2	73	4	22
B1	0.37–0.50	5.3		0.18		2.4												1.2	58	8	34
B2t	0.50–0.95	4.8		0.13		1.7				0.8	0.6	0.2	0.1	2.9		5	–	1.1	56	4	40
BC	0.95–1.20	4.6		0.17		1.1												1.2	44	4	52

^A Coarse sand (CS) fraction includes fine sand (FS).

Key profile properties



General qualities of the soil

Infiltration:	Rapid.
Available water store:	Moderate.
Permeability:	High in the upper profile decreasing to moderate-high at the profile base.
Physical root limitations:	Firm clay subsoils may slightly restrict root penetration.
Erosion hazard:	These soils generally have low erodibility but may overlie highly erodible weathered parent material.
Nutrient availability:	Organic matter and phosphorus are high in the surface soil and moderate to low in the subsoil.
Toxicities:	Strong acidity may be a problem for some plants.



Rolling hills of granitic rocks with wet sclerophyll forest dominated by eucalypts and acacias. This landscape is widespread in north-east Tasmania.

Acknowledgements: Soil image, soil description and laboratory data: Forestry Tasmania. Profile 11.3 from Grant et al. (1995). Landscape image: Alan Moyle.