

DE3: Acidic, Mesotrophic, Red Dermosol

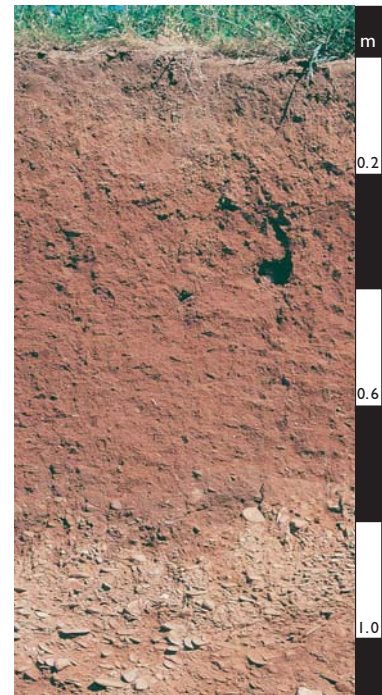
General description of the soil

A moderately structured Red Dermosol in which the major part of the B2 horizon has a relatively low base status (i.e. Mesotrophic) and is strongly acid.

Distribution:	A common soil in eastern subcoastal Australia on acidic rocks and sediments.
Typical land use:	Grazing.
Common variants:	Horizon depths and texture may vary.
World Reference Base:	Chromic Acrisol (incomplete data).
Other names:	Red Podzolic Soils and Krasnozems.

Environment and location of the example profile

Landform:	Lower alluvial stream terrace.
Parent material or substrate:	Gravelly alluvium.
Drainage class:	Well-drained. Coarse river gravels at depth result in free subsoil drainage.
Surface condition:	Firm.
Site disturbance:	Cleared.
Native vegetation:	Open eucalypt forest.

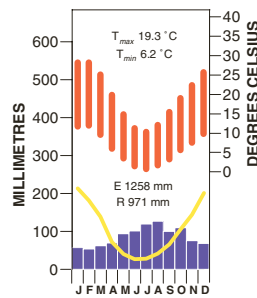


Tallangatta Valley, north-east Victoria

Site location



Site climate



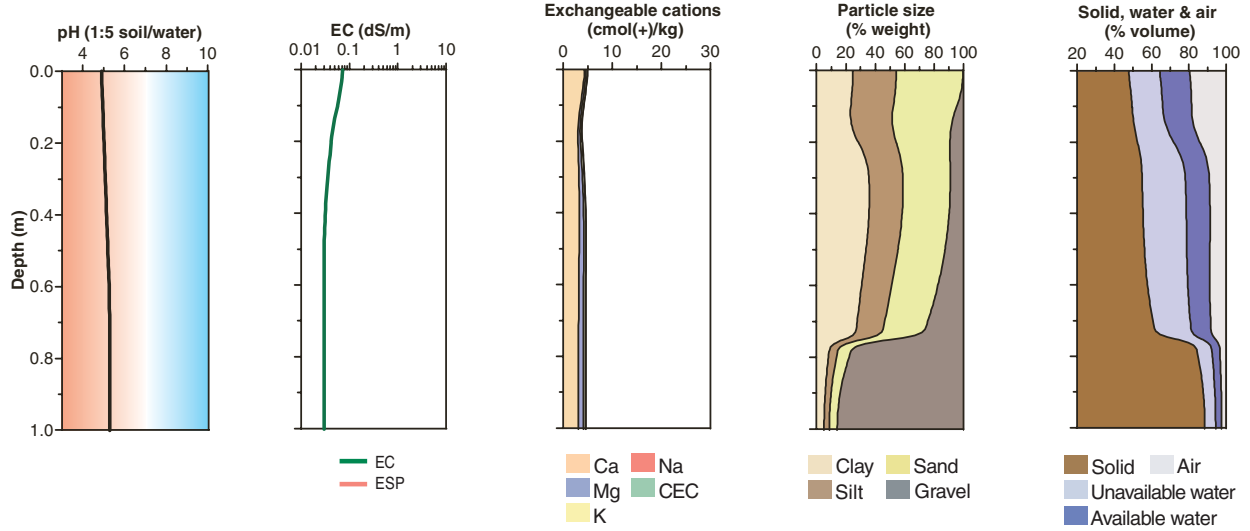
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.10	dark brown (7.5YR 3/4)	–	fine sandy clay loam	weak to moderate	subangular blocky	10–20 mm	firm (dry)	–	–	clear
A2	0.10–0.20	yellowish red (5YR 4/6)	–	fine sandy clay loam	weak	subangular blocky	10–20 mm	firm (moist)	5% alluvial gravel (5 mm)	–	clear
B21	0.20–0.50	dark red (2.5YR 4/7)	–	fine sandy light clay	moderate	subangular blocky	10–20 mm parting to 5–10 mm	weak (moist)	5% alluvial gravel (4 mm)	–	gradual
B22	0.50–0.75	dark red (2.5YR 4/8)	–	fine sandy light clay	moderate	subangular blocky	10–20 mm	weak (moist)	10% alluvial gravel (4 mm)	–	gradual
C	0.75–1.30+			–	–	–	–		50–90% alluvial gravel		

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂ ^B	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C % ^A	Extr. P mg/kg	Tot. P %	Tot. K %	Cation exchange properties ¹ cmol(+)/kg						ESP %	Bulk dens. Mg/m ³	Particle size % ^G			
										Cation exchange properties ¹ cmol(+)/kg								CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC						
A1	0.00–0.10	4.9	4.3	0.07		4.3				4.2	0.3	0.3	< 0.1					11	32	28	23
A2	0.10–0.20	5.0	4.3	< 0.05						2.2	0.3	0.3	< 0.1					10	36	32	23
B21	0.20–0.50	5.1	4.4	< 0.05						3.4	0.9	0.4	< 0.1					7	28	25	40
B22	0.50–0.75	5.3	4.6	< 0.05						3.1	1.0	0.4	< 0.1					11	28	25	37

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless compacted by stock.
Available water store:	Moderate.
Permeability:	High.
Physical root limitations:	None.
Erosion hazard:	Low organic matter and slaking may lead to surface sealing and hardsetting, enhancing erosion potential.
Nutrient availability:	Deficiencies in molybdenum, phosphorus and potassium may occur in the very acid surface soils. The subsoil has a low inherent nutrient status.
Toxicities:	Aluminium and manganese toxicity may occur due to the strongly acid surface soils.



Red Dermosols have developed on the lower level alluvial terrace of Tallangatta Creek, north-east Victoria.

Acknowledgements: Soil image, soil description and laboratory data: Department of Primary Industries, Victoria. Site NE 30, Tallangatta. Landscape image: Department of Primary Industries, Victoria.