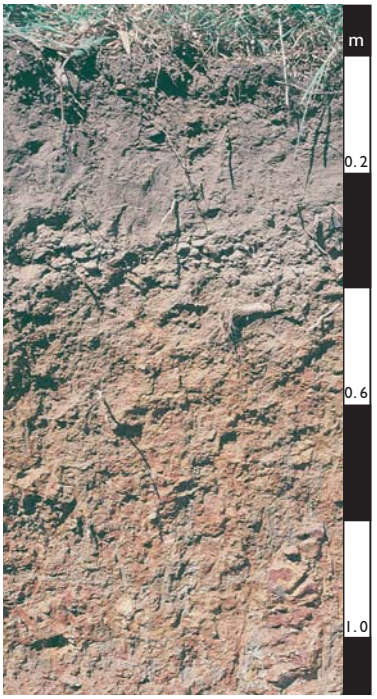
CH8: Ferric-Sodic, Eutrophic, **Brown Chromosol**



Near Cranbourne, south-east of Melbourne

General description of the soil

A texture-contrast soil with a dominantly brown clayey B2 horizon of high base status (i.e. Eutrophic). A ferric horizon is present in the A2 horizon and the lower B2 horizon is sodic (ESP of > 6).

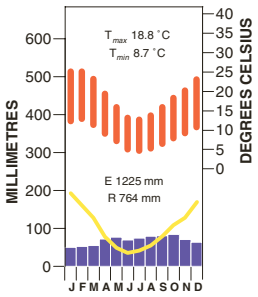
Distribution:	A common soil in much of the subcoastal regions of southern and south-western Australia.
Typical land use:	Dryland farming with small areas used for intensive farming.
Common variants:	Similar soils may have a lesser degree of mottling in the B2 horizon. The content of ferruginous gravel is also variable.
World Reference Base:	Abruptic Lixisol.
Other names:	Soloths, Solodic Soils and Lateritic Podzolic Soils.

Environment and location of the example profile

Landform:	Gently undulating plain with low rises.
Parent material or substrate:	Quaternary aeolian deposits overlying Tertiary sandstone.
Drainage class:	Imperfectly drained.
Surface condition:	Firm.
Site disturbance:	Grassed verge adjacent to cultivation.
Native vegetation:	Woodland.

Site location

Site climate



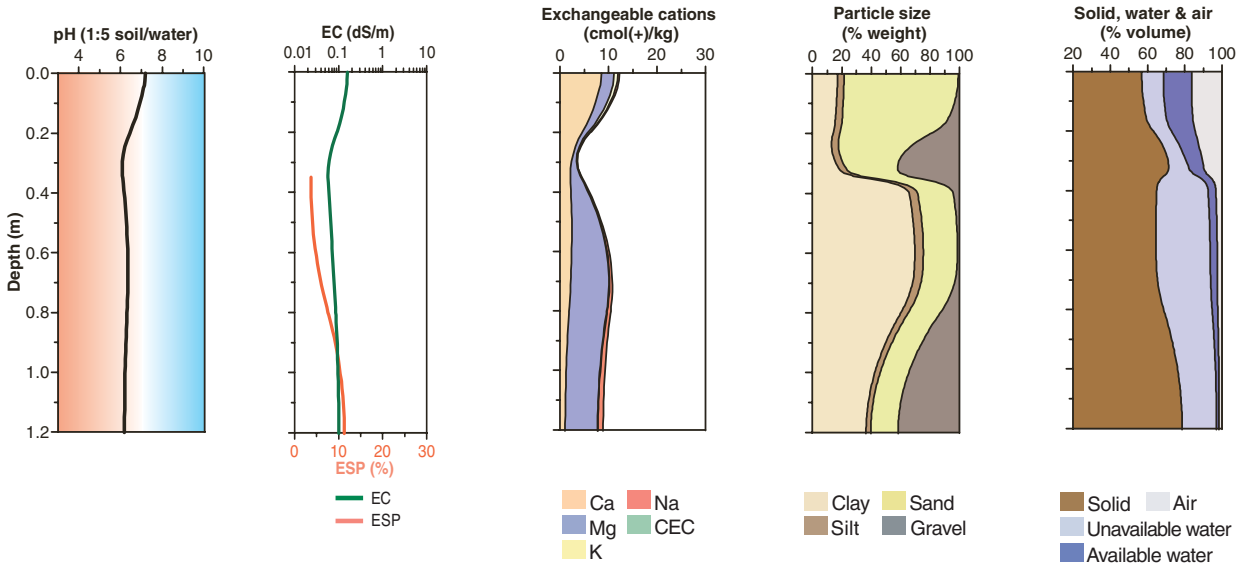
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.20	dark brown (10YR 3/3)	–	sandy loam	massive	–	–		–	–	clear
A2	0.20–0.35	sporadically bleached	–	light sandy loam	massive	–	–	firm (dry)	–	40% iron cemented sandstone and ferruginous nodules	sharp
B21	0.35–0.80	yellowish brown (10 YR 5/4)	yellowish brown (10YR 5/6) and red (2.5YR 4/6)	light medium clay	moderate parting to strong	angular blocky parting to subangular blocky	10–20 mm parting to 5–10 mm	strong (dry)	–	–	gradual
B22	0.80–1.20	light grey (10YR 7/1)	yellowish brown (10YR 5/8) and red (2.5YR 4/6)	light medium clay	strong	polyhedral	20–50 mm	strong (dry)	–	30% iron cemented sandstone	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O [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 [I] cmol(+)/kg							ESP % [C]	Bulk dens. Mg/m^3	Particle size % [G]			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
A1	0.00–0.20	7.0	6.5	0.14		1.6				7.7	2.0	0.6	0.3				–		39	37	5	16
A2	0.20–0.35	5.8	4.7	< 0.05						1.0	0.9	0.1	0.1				–		28	47	10	13
B21	0.35–0.80	6.4	5.5	0.07						2.6 [J]	7.0 [J]	0.1 [J]	0.4 [J]				4		9	15	6	72
B22	0.80–1.20	6.2	5.7	0.1						1.1 [I]	7.0 [I]	0.1 [I]	1.0 [I]				11		11	20	6	64

Key profile properties



General qualities of the soil

Infiltration:	Rapid.
Available water store:	Small to moderate.
Permeability:	Impermeable B horizon prone to waterlogging.
Physical root limitations:	Some root restriction in mottled B horizon, due to poor aeration (when wet) and soil strength (when dry).
Erosion hazard:	Generally minor due to low slope.
Nutrient availability:	Organic matter is low, as is general fertility.
Toxicities:	None recorded.

Gently undulating plains underlain by Tertiary sandstone near Cranbourne, Victoria. Land use is spray-irrigated celery.

Acknowledgements: Soil image, soil description and laboratory data: Department of Primary Industries, Victoria. Site GP 22, Cranbourne. Landscape image: Department of Primary Industries, Victoria.