Site code[1] **CLRA53**

Remnant forest bordering pine plantations

Location Spargo Creek (Daylesford Ballan Road), Ballan district, central Victorian Highlands

Landform Rolling low hills

Geology Ordovician Castlemaine Group sediments: *undifferentiated marine turbiditic sandstone, mudstone, black shale, minor granule conglomerate*

Element Mid slope

Slope 3%

Aspect East

Horizon	Depth (cm)	Description
O2	0–1	
A1	1–15	Greyish brown (10YR5/2); silty loam; apedal massive structure; earthy ped fabric; firm consistence (dry); clear boundary to:
A3	15–25	Brown (10YR5/3); silty loam; moderate fine prismatic structure; rough ped fabric; very firm consistence (dry); gradual boundary to:
B1	25–40	Light yellowish brown (2.5Y6/4) with common medium faint light brownish grey (10YR6/2) mottles; silty clay loam; many medium to coarse angular sandstone fragments and small to medium subangular quartz pebbles; moderate fine prismatic structure; rough ped fabric; firm consistence (dry); gradual boundary to:
B2	40–60	Light grey (2.5Y7/2) with common medium faint pale yellow (2.5Y7/4) mottles; silty clay; very few coarse angular siltstone coarse fragments; strong medium prismatic, parting to fine and very fine structure; very firm consistence (dry); gradual boundary to:
B3	60–95	White (2.5Y8/3) with common medium distinct pale yellow (2.5Y7/4) mottles; light clay(silty); few angular siltstone coarse fragments; weak medium prismatic, parting to fine prismatic structure; firm consistence (dry); gradual boundary to:
C/R	95–150	White (5Y8/2); light clay(silty).

Acidic-mottled, Dystrophic, Yellow Dermosol

[1] Source: Robinson et al (2003) A land resource assessment of the Corangamite region. Department of Primary Industries, Centre for Land Protection Research Report No. 19

Analytical data[2]

Site CLRA53 Horizon	Sample depth cm	pH H_2O	pH $CaCl_2$	EC dS/m	NaCl %	Ex Ca $cmol_c/kg$	Ex Mg $cmol_c/kg$	Ex K $cmol_c/kg$	Ex Na $cmol_c/kg$	Ex Al mg/kg	Ex Acidity $cmol_c/kg$	FC –10kPa %	PWP –1500kPa %	KS %	FS %	Z %	C %
A1	1–15	4.9	4.3	0.06	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	9.6	22.4	32	32
A3	15–25	5	4.3	0.05	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	7.6	18.1	32	39.5
B1	25–40	5.1	4.4	<0.05	N/R	0.3	0.48	0.35	0.16	N/R	13	N/R	N/R	7.9	21.4	31	38
B2	40–60	5.2	4.3	<0.05	N/R	0.12	0.59	0.16	0.13	N/R	9.1	N/R	N/R	6.1	15.1	38	38.5
B3	60–95	5	4.2	<0.05	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	1.1	6	53.5	39.5

Management considerations

This is a pale, acidic soil with a high silt component and a uniform to gradational increase in clay content with depth and little surface organic matter. Acidic soils are restricted in uptake of certain nutrients as well as being intolerance for some plant species (due in part to the increasing mobilisation of aluminium and manganese). The application of lime is the main method of increasing the pH, reducing toxic levels of nutrients to plants while increasing the availability of nutrients such as calcium, potassium and molybdenum. These soils are also like to be erosion prone where exposed (dispersive) and have a relatively low liquid limit (losing their strength). Some mottling occurs at depth above the weathered sediments (becoming kaolinised). This indicates restricted drainage, though less than where texture contrast soils have developed.

[2] Source: Government of Victoria State Chemistry Laboratory.