Site code[1] **CLRA13**

Hills around Deans Marsh

Location Deans Marsh (Cemetery Road), Otway Ranges, south-west Victoria

Landform Hills

Geology Paleogene Eastern View Formation: *fluvial gravel, sand, clay, brown coal*

Element Upper slope

Slope 20%

Aspect East-north-east

Melacic-parapanic, Humosesquic, Semi-aquic Podosol

Horizon	Depth (cm)	Description
Ah	0–25/60	Black (10YR2/1), grey (10YR5/1 dry); loamy sand; apedal single grain structure; very weak consistence (moist); pH 5.0; clear irregular boundary to:
A2	25/60–30/130	Grey (10YR6/1), light grey (10YR7/1dry); loamy sand; apedal single grain structure; very weak consistence (moist); pH 5.5; abrupt broken boundary to:
B21s	40/55–85	Yellowish brown and dark yellowish brown (10YR5/8, 10YR4/6); loamy sand; apedal single grain structure; very weak consistence (moist); pH 6.0; abrupt broken boundary to:
B22s	85/130–+	Very dark brown (10YR2/2); apedal massive structure; very strong consistence; weakly cemented ortstein; pH 6.0.

[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 CLRA13 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 %
Ah	0–15	4.6	3.9	0.06	N/R	1.9	0.45	0.2	0.11	53	11	18.3	4.2	2.6	36.2	18	37.5
A2	60–80	4.5	3.9	<0.05	N/R	0.12	0.05	0.05	<0.05	21	1.4	13	0.6	23.2	62.5	11.5	3
B21s	60–80	5.5	4.9	<0.05	N/R	0.58	0.15	0.11	0.09	46	9.7	14	3.0	24	56.6	4	11
B22s	80–120	5.4	4.7	<0.05	N/R	0.5	0.26	0.13	0.1	94	13	20.6	4.6	21.5	52.8	7.5	13

Management considerations

This sandy soil is also acidic meaning that the nutrient holding and waterholding capacity of the soil would be considered low. However the organic matter levels in the surface (6.5% OM) provides increased capacity for nutrient and water storage. The low pH means that nutrient availability is low and that aluminium and iron become more available/prevalent. The high clay content by laboratory determination of the surface soil is not consistent with the field texture and may indicate sample contamination. The light textures of this soil do not allow for the measurement of fine particle (silt and clay) stability (Emerson test). Where exposed this material is easily moved (little cohesion).

For management the depth of free draining material is important as is the variability of topsoil/soil depth. This soil varies in surface soil depth and is restricted at 85cm by a “coffee rock” horizon, restricting some downward drainage, promoting some lateral flow.

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