

Site code¹	MM212
Location	Shelford (Rokewood Shelford Road), Shelford district, south-west Victoria
Landform	Lava plain
Geology	Quaternary Newer Volcanics: <i>extrusive tholeiitic to alkaline basalts, minor scoria and ash</i>
Element	Crest

Profile morphology

Horizon	Depth (cm)	Description
A1	0–5	Very dark greyish brown (10YR3/2); clay loam; apedal massive structure; strong consistence (dry); common fine segregations; sharp boundary to:
B21	5–45	Very dark greyish brown (10YR3/2) with brown (10YR4/6) mottles; heavy clay; strong coarse blocky structure; very firm consistence (moderately moist); clear boundary to:
B22	45–70	Dark greyish brown (10YR4/2); medium clay; strong medium blocky structure; firm consistence (moderately moist); boundary to:
B23	70+	Greyish brown (10YR5/2); medium clay; moderate medium blocky structure; firm consistence (moderately moist); common calcareous ferruginous segregations.

ASC: Vertic, Subnatric, Black Sodosol

Analytical data²

Site MM212 Horizon	Sample depth cm	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex
		H ₂ O	CaCl ₂	dS/m	%	cmol _c /kg	cmol _c /kg	cmol _c /kg	cmol _c /kg	mg/kg	acidity cmol _c /kg
A1	0–5	6.3	N/R	0.14	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	5–45	7	N/R	0.12	N/R	6.9	11	0.64	2.8	N/R	6.8
B22	45–70	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	70+	8.7	N/R	0.77	0.14	N/R	N/R	N/R	N/R	N/R	N/R

Site MM212 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m ⁻³
A1	0–5	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	5–45	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B22	45–70	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	70+	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Management considerations

This soil exhibits a strong texture contrast between the surface soil and the subsoil and may have an impact upon the permeability. The surface soils are hardsetting and shallow having a reduced water holding capacity and are more susceptible to waterlogging, water and wind erosion. The subsoil is medium to heavy clay and acts as a barrier to water movement. Mottles and ferruginous nodules at depth indicate periods of waterlogging. Soil salinity also increases with depth and will limit plant root penetration to that depth.

¹ Source: Maher JM, Martin JJ 1987 Soils and landforms of south-western Victoria. Department of Agriculture and Rural Affairs. Research Report No. 40.

² Source: Government of Victoria, State Chemistry Laboratory.

Maher & Martin Reference Site

Improved drainage and the application of gypsum to improve structure and permeability may reduce the incidence of waterlogging while increasing organic matter and maintaining vegetative cover is also important.