Site code[1] **MM228**

Location **Camperdown (Cobden Camperdown Road), Camperdown district, south-west Victoria**

Landform Undulating basalt hills

Geology Quaternary Newer Volcanics: *tuff rings, pyroclastic base surge and fall deposits consisting of ash, lapilli, scoria; well bedded and sorted, moderately consolidated*

Element Upper slope

Profile morphology

Horizon	Depth (cm)	Description
A1	0–20	Very dark greyish brown (10YR3/2); clay loam; apedal massive structure; weak consistence (moderately moist); clear boundary to:
A2	20–35	Brown (10YR4/3), light grey (10YR7/2 dry) sporadically bleached; clay loam; very weak consistence (moderately moist); common fine segregations; sharp boundary to:
B21	35–65	Dark brown (10YR3/3) with brown (2.5YR4/6) mottles; medium clay; strong medium blocky structure; weak consistence (moist); gradual boundary to:
B22	65–100	Yellowish brown (10YR5/4) with red (2.5YR4/6) mottles; medium clay; strong medium blocky structure; firm consistence (moist); gradual boundary to:
B23	100–105	Yellowish brown (10YR5/6) with red (2.5YR4/6) mottles; medium clay; very firm consistence (moist); boundary to:
B24	105+	Dark grey (10YR4/1); light clay.

ASC: Mottled-Sodic, Mesotrophic, Brown Chromosol

Analytical data[2]

Site MM228 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 $cmol_c/kg$
A1	0–20	5.6	N/R	0.06	N/R	1	1	0.1	0.4	32	14.3
A2	20–35	5.9	N/R	0.04	N/R	1.2	1.2	0	0.4	9	9.9
B21	35–65	6.1	N/R	0.11	N/R	2.8	2.8	0.2	2	N/R	19.8
B22	65–100	6.2	N/R	0.13	N/R	N/R	N/R	N/R	N/R	N/R	14.3
B23	100–105	6.3	N/R	0.18	0.05	N/R	N/R	N/R	N/R	N/R	14.6
B24	105+	7.5	N/R	0.11	N/R	4.7	4.7	0	4.9	N/R	11

Site MM228 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density $t\ m^{-3}$
A1	0–20	29.8	11.3	5	45	27	17	3.1	1.04
A2	20–35	23.4	10.1	11	41	26	20	N/R	N/R
B21	35–65	48.3	42.5	2	9	5	83	N/R	0.84
B22	65–100	N/R	N/R	2	9	8	80	N/R	N/R
B23	100–105	N/R	N/R	2	8	10	80	N/R	N/R
B24	105+	N/R	N/R	29	35	16	17	N/R	N/R

[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.

Management considerations

Strong texture contrast between the surface soil and the subsoil is a very important soil feature and may impact upon subsoil permeability. Sporadically bleached A2 horizons containing many fine segregations are key features of this profile. Mottled subsoils are other prominent features of this soil type.

The application of gypsum would be suitable for soil structure and improved permeability, while increasing organic matter and maintaining vegetative cover is important to help improve the soil structure. Penetration by deep-rooted crops is also useful.