Site code[1] **SW2**

Location	Grassmere
Landform	Undulating rises
Geology	Quaternary alluvial material and volcanic ash deposits overlying Tertiary period Port Campbell Limestone (Tmc)
Element	Lower terrace of Merri Creek

Pasture used for grazing

Horizon	Depth (cm)	Description
A11	0–15	Black (10YR2/1) clay loam; strong medium polyhedral, parting to strong fine polyhedral structure; weak consistence (moist); pH 7.6; gradual boundary to:
A12	15–25	Black (10YR2/1) clay loam; strong medium polyhedral, parting to strong fine polyhedral structure; weak consistence (moist); pH 7.8; clear to gradual boundary to:
B21	25–45	Black (10YR2/1) light medium clay; strong medium polyhedral, parting to strong fine polyhedral structure (smooth faced peds); weak consistence (moist); pH 8.0; gradual boundary to:
B22	45–60	Dark brown (7.5YR3/2) light clay; moderate medium blocky, parting to strong fine subangular blocky structure; weak consistence (moist); pH 8.1 ; abrupt boundary to:
		Note: The underlying horizons are layered tuff, volcanic ash and alluvial deposits of varying thickness.
D1	60–80	Greyish brown (10YR5/2) clayey marl; weakly structured; very weak consistence (moist); contains a few (10%) carbonate nodules (5 –15 mm); pH 8.6; clear boundary to:
D2	80–-90	Dark greyish brown (10YR4/2) fine sandy marl, structureless; very firm consistence (moderately moist); abrupt boundary to:
D3	90–100	Very dark greyish brown (2.5Y3/2) fine sandy loam; structureless; pH 8.8; sharp boundary to:
D4	100–102	Carbonate layer:
D5	102–120	Very dark grey (10YR3/1) fine sandy marl; very firm consistence (moderately moist); variably compacted; distinctly layered.

Humose, Hypocalcic, Black Chromosol

[1] Source: Imhof M, Brown A, Ward G (unpublished) Soils associated with dairy irrigation and winter wet soils in Southwest Victoria

Analytical data[2]

Site SW2	Sample depth	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex acidity	FC (-10kPa)	PWP (-1500kPa)	KS	FS	Z	C
Horizon	cm	H_2O	$CaCl_2$	dS/m	%	$cmol_c/kg$	$cmol_c/kg$	$cmol_c/kg$	$cmol_c/kg$	mg/kg	$cmol_c/kg$	%	%	%	%	%	%
A11	0–15	7.6	7.0	0.35	N/R	42	13	0.72	2.9	N/R	N/R	N/R	39.7	8.2	20.3	21.5	27
A12	15–25	7.8	7.3	0.43	N/R	47	12	0.58	2.2	N/R	N/R	N/R	32.6	7.5	21	23.5	26
B21	25–45	8	7.4	0.42	N/R	49	18	1.03	3.2	N/R	N/R	N/R	46.2	6.7	15.2	14	49
B22	45–60	8.1	7.6	0.61	N/R	48	25	0.99	4.8	N/R	N/R	N/R	47.6	6.2	16.4	22	40.5
D1	60–80	8.6	7.9	0.53	N/R	49	24	0.45	4.6	N/R	N/R	N/R	27.6	2.9	17.9	12	14
D2	80–90	8.6	8.0	0.46	N/R	43	18	0.63	5.3	N/R	N/R	N/R	21.8	15.4	38.9	6.5	1.5
D5	102–120	8.8	8.1	0.31	N/R	29	8.3	0.79	3.2	N/R	N/R	N/R	12.6	17.4	45.9	1.5	2.5

Management considerations

Note: The following comments are made on the basis of examination of a single profile and are therefore indicative only. Fertiliser and lime requirements would need to be verified and quantified through analysis of bulk samples of standard depth taken from across a whole paddock.

The upper soil profile (to 60 cm depth) is very well structured (parting to many fine polyhedral shaped peds) and is friable when moist. The soil profile also has a very high inherent fertility. As a result of these attributes, the soil profile will provide few restrictions to water and root movement and will be very conducive to plant growth.

The high wilting point value (i.e. 40%) indicates that plants will be unable to utilise light rains when the soil is relatively dry. The soil profile, however, will have a reasonably high plant available water capacity.

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