Site code[1] **SW38**

Grazing paddock (dairy).

Location Irrewillipe

Landform Gently undulating plain

Geology Neogene - Moorabool Viaduct Formation.

Element Gentle slope

Ferric-Sodic, Mesotrophic, Grey Chromosol

Horizon	Depth (cm)	Description
A1	0–15	Very dark brown (10YR2/2); light fine sandy clay loam; moderate coarse polyhedral, parting to moderate medium polyhedral structure; weak consistence (moist); pH 6.1:
A21	15–45	Dark brown (10YR3/3), sporadically bleached; rusty root channel mottling; light fine sandy clay loam; weak medium blocky, parting to moderate medium blocky structure; weak consistency (moist); pH 5.7:
A22	45–55	Dark brown (10YR4/3); fine sandy clay loam; contains very many (80%) medium and coarse (4-20 mm); ferruginous nodules; pH 6.4:
B21	55–-90	Dark brown (7.5YR4/2) with many strong brown (7.5YR5/8) mottles; light medium clay; strong medium blocky, parting to strong fine polyhedral structure; firm to strong consistence (moist); contains a few (5-10%) medium and coarse (4-20 mm) ferruginous nodules pH 6.7:
B22	90+	Light brownish grey (10YR6/2) with reddish yellow (7.5YR6/8) and red (2.5YR4/8) mottles; medium clay; strong medium blocky, parting to strong fine polyhedral structure; firm consistence (moist); contains a few (5-10%) ferruginous nodules; pH 6.8.

[1] Source: Imhof M, Brown A, Ward G (unpublished) Soils associated with dairy irrigation and winter wet soils in Southwest Victoria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 SW38	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	$cmol_c/kg$	%	%	%	%	%	%
A1	0–15	6.1	5.4	0.08	N/R	6	0.4	0.2	0.05	N/R	N/R	29	9.3	7	54	17	14
A21	15–45	5.7	4.9	0.07	N/R	2.9	0.3	0.05	0.05	N/R	N/R	27.4	6.7	9	55	19	14
A22	45–55	6.4	5.6	0.05	N/R	1.4	0.9	0.05	0.05	N/R	N/R	25.9	9.1	17	47	15	21
B21	55–90	6.7	6.0	0.08	N/R	4.6	6	0.2	0.6	N/R	N/R	52.8	31.4	2	12	5	78
B22	90+	6.8	6.0	0.07	N/R	3.9	5.8	0.1	0.6	N/R	N/R	48.4	27.5	3	18	9	72

Management considerations

The surface (A1) horizons are quite deep, have reasonable organic matter levels and weak consistence when moist. This will provide a good environment for plant growth. Aeration porosities at field capacity are reasonable and hydraulic conductivities are good.

Bleached subsurface (A2) horizons are a major feature of many of soils within the Corangamite region. They are an indication of restricted drainage and they have poor soil structure (often massive), low organic matter and nutrient levels, and low water-holding capacity. They are usually associated with a restrictive soil below such as a coarsely structured clay horizon. These bleached horizons may act as conduit for subsurface flow, particularly on sloping ground.

Ferruginous and Ferromanganiferous nodules, and concretions ('buckshot') can restrict root penetration and limit available water holding capacity - forming a discontinuous or continuous pan where concentrated (>50%). Buckshot layers are also an indication of periodic waterlogging. Subsurface drainage may need to be considered where topsoils are shallow.

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