Site code[1] **SW52**

Pasture on lower slopes.

Location Cowleys Creek

Landform Gently undulating rises

Geology Neogene - Gellibrand Marl

Element Lower slope

Horizon	Depth (cm)	Description
A1	0–12	Very dark greyish brown (10YR3/2); very fine sandy clay loam; weak to moderate medium blocky structure; pH 5.3; clear boundary to:
A2	12–20	Pale brown (10YR6/3), conspicuously bleached; rusty root channel mottling; very fine sandy clay loam; moderate medium blocky structure; pH 4.9; gradual boundary to:
B21	20–35	Pale brown (10YR6/3) with a few yellowish brown (10YR5/8) mottles; light clay; moderate coarse blocky, parting to strong medium blocky structure; pH 4.9; gradual boundary to:
B22	35–65	Brown (10YR5/3) with many yellowish brown (10YR5/8) mottles; medium clay; moderate coarse prismatic, parting to strong coarse and medium polyhedral structure; pH 4.9; gradual boundary to:
B23	65+	Grey (10YR6/1) with many yellowish brown (10YR5/8) mottles; medium clay; strong coarse polyhedral, parting to strong medium and fine polyhedral structure; many slickensides; pH 5.2; boundary to:
		Note: Deeper in profile, Yellowish brown (10YR5/8); clay; contains calcareous segregations.

Vertic (& Bleached-Acidic), Eutrophic, Grey Dermosol

[1] Source: Imhof M, Brown A, Ward G (unpublished) Soils associated with dairy irrigation and winter wet soils in Southwest Victoria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 SW52	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	0-12	5.3	4.6	0.27	0.01	5.3	2.2	1	0.1	N/R	N/R	43	16.5	3	35	31	18
A2	12-20	4.9	4.2	0.13	N/R	2.6	1.5	0.4	0.05	N/R	N/R	30.8	10	1	40	35	22
B21	20-35	4.9	4.1	0.12	N/R	2.8	2.4	0.3	0.2	N/R	N/R	30.2	13.6	1	34	34	31
B22	35-65	4.9	4.2	0.23	N/R	6.7	5.8	0.4	0.4	N/R	N/R	41.3	23	1	19	18	59
B23	65+	5.2	4.4	0.21	N/R	7.9	8.8	0.2	1.3	N/R	N/R	45.2	23.2	1	15	21	58

Management considerations

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 soil profile is strongly to very strongly acid throughout. This indicates that aluminium and manganese toxicity may occur. Lime can be used to increase soil pH. Other factors need to be considered before lime is recommended (e.g. pasture species grown, method of application, local trial responses, soil surface structure and likely cost/benefit). Manganese toxicity is more likely to occur in poorer drained situations (as waterlogging may bring manganese into solution). If lime is required, and pH increased, then the availability of major nutrients (e.g. phosphorus and some trace elements such as molybdenum) may improve.

Gradational soil profiles (earths) or medium textured soils (loams) are often preferred in agricultural land use due their limited or gradual change in texture with depth. This allows water and gas (air) to move without as many physical limitations as can occur on texture contrast soils.

Bleached subsurface (A2) horizons are a major feature of many of soils within the Corangamite region and are an indication of restricted drainage. They are characterised by poor soil structure (often massive), low organic matter and nutrient levels and low water holding capacity. These bleached layers are associated with restrictive (e.g. denser and more coarsely structured) subsoils and may act as conduit for subsurface flow, particularly on sloping ground.

Mottled subsoils are also an indication of periodic waterlogging, particularly if the mottles are pale (low oxygen conditions). Improved drainage may be beneficial.

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