

Site code¹ SW39



Grazing paddock (dairy)

Location Irrewillipe
Landform Level plain
Geology Quaternary sediments overlying Neogene - Moorabool Viaduct Formation.
Element Terrace



Melacic (& Vertic), Eutrophic, Black Dermosol

Horizon	Depth (cm)	Description
A1	0–25	Very dark brown (10YR2/2); very fine sandy clay loam; weak coarse blocky, parting to moderate coarse blocky structure; firm consistence (moist); pH 5.4:
A21	25–40	Very dark greyish brown (10YR3/2); sporadically bleached; very fine sandy clay loam; weak coarse blocky structure; weak consistence (moist); pH 5.6:
A22	40–65	Dark greyish brown (10YR4/2) with brownish yellow (10YR6/6) mottles; sporadically bleached; fine sandy clay loam (heavy); weakly structured; weak consistence (moist); pH 5.6:
B21	65–90	Very dark brown (10YR2/2); light clay (fine sandy); moderate coarse blocky structure; firm consistence (moist); pH 5.6:
B22	90+	Very dark brown (10YR2/2) with a few yellowish brown (10YR5/8) mottles; medium clay; strong medium lenticular, parting to strong very fine lenticular structure; firm consistence (moist); pH 5.7.

¹ Source: Imhof M, Brown A, Ward G (unpublished) Soils associated with dairy irrigation and winter wet soils in Southwest Victoria

Analytical data²

Site SW39	Sample depth	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex acidity	FC	PWP	KS	FS	Z	C
		H ₂ O	CaCl ₂														
Horizon	cm			dS/m	%	cmol _c /kg	cmol _c /kg	cmol _c /kg	cmol _c /kg	mg/kg	cmol _c /kg	%	%	%	%	%	%
A1	0–25	5.4	4.9	0.81	0.18	4	1.5	0.2	0.4	N/R	N/R	30	9.7	9	50	20	15
A21	25–40	5.7	5.1	0.71	0.016	2.4	1.3	0.2	0.4	N/R	N/R	24.9	5.4	8	54	23	14
A22	40–65	5.6	5.0	0.64	0.015	2.5	1.2	<0.1	0.4	N/R	N/R	22.3	5.4	9	55	16	21
B21	65–90	5.6	5.1	0.7	0.16	3.2	3.8	<0.1	1	N/R	N/R	31.9	14.4	6	40	18	37
B22	90+	5.7	5.2	0.77	0.09	2.3	4.4	<0.1	1.1	N/R	N/R	33.1	15.9	5	37	14	41

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 surface soil is strongly acid (and the rest of the profile is moderately acid). 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.

Hydraulic conductivity will be reasonably high for this soil profile. Linear shrinkage is low but some cracking would be expected as the subsoils dry out. Mole drains are likely to last reasonably well.

² Source: Government of Victoria State Chemistry Laboratory.