

Site code<sup>1</sup> SW24



Grazing paddock (dairy)

**Location** Simpson  
**Landform** Undulating hills and ridges  
**Geology** Neogene - Moorabool  
Viaduct Formation  
(lateritised sand and clay)  
**Element** Simple slope

Horizon	Depth (cm)	Description
A11	0–5	Dark brown (7.5YR3/4); sandy loam; weak consistence (moist); pH 5.4; abrupt boundary to:
A12	5–15	Dark reddish brown (2.5YR3/4); coarse sandy loam; apedal; weak consistence (moist); pH 5.2; clear boundary to:
A13	15–30	Red (2.5YR4/6); coarse sandy loam; apedal; weak consistence (moist); a few (5%) small to large (2–30 mm) quartz fragments; pH 5.4; clear boundary to:
B21	30–60	Strong brown (7.5YR5/8); sandy clay loam; weak coarse blocky structure; weak consistence (moist); few (2–5%) medium (5–15 cm); quartz fragments; pH 6.2; gradual boundary to:
B22	60–90	Strong brown (7.5YR5/8); sandy clay loam; weak coarse blocky structure; pH 6.1; sharp boundary to:
C	90+	Ferricrete.



Haplic, Mesotrophic, Brown Kandosol

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 Source: Imhof M, Brown A, Ward G (unpublished) Soils associated with dairy irrigation and winter wet soils in Southwest Victoria

## Analytical data<sup>2</sup>

Site SW24	Sample depth	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex acidity	FC	PWP	KS	FS	Z	C
		H <sub>2</sub> O	CaCl <sub>2</sub>														
Horizon	cm			dS/m	%	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	mg/kg	cmol <sub>c</sub> /kg	%	%	%	%	%	%
A11	0–5	5.4	4.6	0.12	N/R	0.05	0.05	0.05	0.05	N/R	N/R	20	14.1	51	26	4	10
A12	5–15	5.2	4.4	0.07	N/R	1.6	0.2	0.1	0.05	N/R	N/R	12.8	6	51	29	4	12
A12	15–30	5.4	4.6	<0.05	N/R	0.7	0.05	0.1	0.05	N/R	N/R	9.7	5.2	52	29	3	13
B21	30–60	6.2	5.9	0.06	N/R	1.5	0.3	0.4	0.05	N/R	N/R	16.1	9.5	50	20	2	29
B22	60–90	6.1	6.0	<0.05	N/R	0.9	1.2	0.1	0.05	N/R	N/R	17.1	11.3	54	11	1	31

## 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 horizons (to 30 cm depth) are strongly 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.

The soil profile (with its high coarse and fine sand content) has low overall levels of exchangeable basic cations (i.e. low nutrient holding capacity).

Root and water movement at depth will be significantly restricted at depth by the ferruginised rock material. The soil profile above this should be reasonably well draining. Although the soil profile is very weakly structured and bulk densities tend to be high - it has only a weak consistence when moist, which will be more conducive to plant root growth.

These soils are non-plastic and unlikely to be suitable for forming mole drains.

<sup>2</sup> Source: Government of Victoria State Chemistry Laboratory.