

RED GRADATIONAL LOAM OVER LIMESTONE

General Description: *Well structured dark red loam grading to a red friable clay moderately shallow over calcareous rock*

Landform: Slopes of undulating to rolling rises and low hills

Substrate: Limestone, dolomite, calc-siltstone or marble

Vegetation: Blue gum woodland



Type Site: Site No.: CH101

1:50,000 sheet: 6526-4 (Cape Jervis)

Hundred:

Yankalilla

Annual rainfall: 750 mm

Sampling date:

17/10/96

Landform: Lower slope of a rolling rise, 20% slope.

Surface: Firm with minor dolomite outcrops.

Soil Description:

Depth (cm)	Description
0-10	Dark reddish brown loam with strong granular structure. Clear to:
10-22	Dark reddish brown clay loam with strong granular structure. Gradual to:
22-40	Reddish brown light clay with moderate polyhedral structure and minor quartz and dolomite fragments. Clear to:
40-60	Yellowish red light clay with moderate polyhedral structure and minor quartz and dolomite fragments. Sharp to:
60-65	Hard marble.



Classification: Melanic, Eutrophic, Red Dermosol; medium, non-gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Well drained. The soil is unlikely to remain saturated for more than a day following rain.
Fertility	Natural fertility is moderately high due the high calcium status of the soil (calcareous parent rock). At the pit site, phosphorus levels are low, copper and zinc appear to be low, and other tested elements are adequate, although the calcium : magnesium ratio is too high. Organic carbon levels are high.
pH	Acidic throughout. Dolomite is required.
Rooting depth	60 cm in pit.
Barriers to root growth	
Physical:	Moderately shallow depth to rock is the main limitation - this will be highly variable across the paddock.
Chemical:	There are no chemical barriers.
Water holding capacity	Approximately 90 mm.
Seedling emergence:	Good.
Workability:	Good.
Erosion Potential	
Water:	High, due to the slope of the land. The soil itself is relatively erosion resistant.
Wind:	Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ mg/kg	Boron mg/kg	Trace Elements mg/kg (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.7	5.0	0	0.07	0.29	4.6	13	323	19	1.2	1.1	308	515	1.9	18.8	12.3	2.33	0.31	0.94	1.7
0-10	5.7	5.1	0	0.07	0.34	4.0	11	289	17	0.9	-	-	-	-	15.7	11.4	1.87	0.28	0.85	1.8
10-22	5.7	4.7	0	0.03	0.13	2.8	6	200	12	1.0	-	-	-	-	14.4	9.13	1.52	0.35	0.48	2.4
22-40	5.9	5.1	0	0.03	0.11	1.7	14	148	13	1.1	-	-	-	-	12.7	8.81	1.74	0.37	0.37	2.9
40-60	6.2	5.3	0	0.03	0.09	1.0	44	218	13	1.0	-	-	-	-	13.9	10.9	2.39	0.36	0.40	2.6

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.

CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC.