LOAM OVER RED CLAY

General Description: *Hard setting loamy surface soil over a well structured red clay, calcareous with depth, grading to highly weathered rock*

Landform: Lower slopes and pediments of undulating rises and low hills

Substrate: Highly weathered fine grained basement rock (siltstone, slate etc)

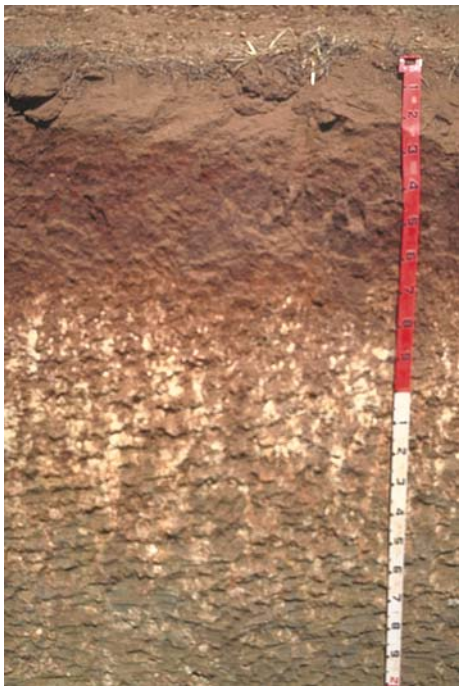
Vegetation:

Type Site: Site No.: CL023

1:50,000 sheet:	6729-3 (Truro)	Hundred:	Moorooroo
Annual rainfall:	525 mm	Sampling date:	21/03/95
Landform:	Lower slope of gently undulating rise, 3% slope		
Surface:	Firm with about 10% surface quartz stones		

Soil Description:

Depth (cm)	*Description*
0-15	Dark brown hard massive loam. Abrupt to:
15-55	Firm red medium clay with moderate coarse prismatic structure. Clear to:
55-100	Red highly calcareous medium clay with moderate coarse prismatic structure. Gradual to:
100-140	Red, dark grey and yellow highly calcareous clay loam with weak subangular blocky structure, and 10-20% slate fragments. Gradual to:
140-180	Olive, red and yellow moderately calcareous clay loam (highly weathered slate with soft carbonate). Gradual to:
180-220	Grey and red moderately calcareous silty clay loam (highly weathered slate).



Classification: Haplic, Hypercalcic, Red Chromosol; medium, gravelly, loamy / clayey, very deep

Summary of Properties

Drainage Well drained. Soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall.

Fertility Natural fertility is high as indicated by the exchangeable cation data. Nutrient retention capacity in the surface soil relies on adequate organic matter - organic carbon levels are good. Levels of measured nutrient elements are satisfactory.

pH Neutral on the surface becoming alkaline with depth.

Rooting depth 140 cm, but few roots below 100 cm.

Barriers to root growth

Physical: Coarse aggregates cause uneven root distribution in clay.

Chemical: There are no chemical barriers.

Water holding capacity Approximately 120 mm in the rootzone - not limiting.

Seedling emergence: Possible surface sealing, leading to patchy emergence.

Workability: Occasional temporary waterlogging after rain. Tendency to shatter when dry and puddle when wet.

Erosion Potential

Water: Moderately low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	CO_3 %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO_4-S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	7.3	6.7	0.0	0.08	0.5	1.7	40	364	9	1.4	-	-	-	-	9.4	6.49	0.99	0.08	0.97	0.9
0-15	7.2	6.7	0.0	0.08	0.5	1.3	31	259	8	1.1	-	-	-	-	7.3	6.39	0.88	0.10	0.73	1.3
15-55	7.4	6.6	0.0	0.05	0.1	0.7	<4	322	19	4.2	-	-	-	-	28.5	16.90	4.73	0.42	1.33	1.4
55-100	8.4	7.9	35.1	0.13	0.2	0.1	<4	278	16	3.4	-	-	-	-	18.4	12.33	4.80	0.33	0.89	1.7
100-140	8.9	8.1	16.7	0.14	0.3	0.2	<4	444	15	2.3	-	-	-	-	15.2	8.01	7.45	0.57	0.66	3.7
140-180	9.1	8.2	13.9	0.02	0.3	0.1	<4	428	14	2.0	-	-	-	-	15.2	6.84	8.38	0.97	0.63	6.3
180-220	9.2	8.4	4.9	0.19	0.4	0.3	<4	280	12	1.6	-	-	-	-	14.6	5.34	8.40	1.32	0.49	9.0

Note: Paddock sample bulked from 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. EC