

IRONSTONE SOIL (Wanilla soil)

General Description: *Ironstone gravelly sandy loam over a brown clay grading to highly weathered kaolinized sediments*

Landform: Rolling low hills.

Substrate: Deeply weathered kaolinized Tertiary sediments.

Vegetation:

No landscape image available

Type Site: Site No.: EL004

1:50,000 sheet: 6029-2 (Koppio)

Hundred: Koppio

Annual rainfall: 525 mm

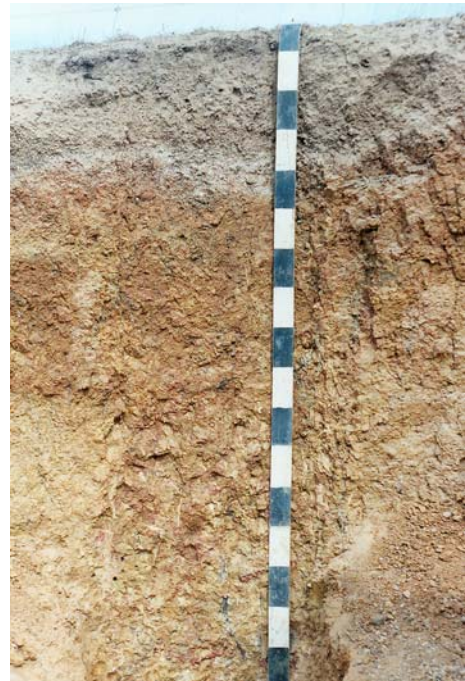
Sampling date: 24/03/92

Landform: Upper slope of 15%

Surface: Soft with 10-20% ironstone (20-60 mm)

Soil Description:

Depth (cm)	Description
0-5	Dark greyish brown soft sandy loam with weak subangular blocky structure and 2-10% ironstone gravel (6-20 mm). Clear to:
5-18	Brown firm massive sandy loam with 20-50% ironstone concretions. Clear to:
18-32	Yellowish brown firm massive coarse sandy loam with more than 50% ironstone concretions. Sharp to:
32-85	Brownish yellow and red very hard medium clay with fine angular blocky structure and 2-10% ironstone concretions. Gradual to:
85-180	Yellowish brown and red very hard medium clay with fine angular blocky structure and 10-20% ironstone concretions.



Classification: Ferric, Eutrophic, Brown Chromosol; thick, gravelly, loamy / clayey, very deep

Summary of Properties

Drainage Imperfectly drained. Water may perch on the clayey subsoil for several weeks following heavy or prolonged rainfall.

Fertility Inherent fertility is low, as indicated by the exchangeable cation data. The surface layers have a very low capacity to retain nutrients, and supply of phosphorus is hindered by the abundant ironstone gravel. There is good retention capacity in the subsoil.

pH Acidic at the surface, alkaline with depth

Rooting depth 85 cm in pit.

Barriers to root growth

Physical: The clayey subsoil presents a minor barrier to uniform root growth.

Chemical: There are no chemical limitations, other than low nutrient retention capacity and high phosphate fixing capacity.

Water holding capacity Approximately 80 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: Soft to firm surface is easily worked.

Erosion Potential

Water: Moderately high.

Wind: Moderately 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 -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	
0-5	6.4	5.4	0	0.04	0.27	1.30	27	-	4.0	1.0	0.78	55.8	3.20	0.48	2.6	2.6	0.8	0.14	0.52	na
5-18	6.4	5.0	0	0.03	0.17	1.30	27	-	2.6	0.6	0.78	55.8	3.20	0.48	1.7	1.8	0.6	0.07	0.27	na
18-32	6.9	6.1	0	0.06	0.35	0.45	5	-	4.5	0.6	0.92	22.4	0.70	0.36	1.4	1.6	0.7	0.13	0.36	na
32-85	7.1	6.0	0	0.12	0.82	0.21	2	-	25	3.3	0.24	9.8	0.06	0.18	16.3	4.4	4.4	0.84	0.50	5
85-180	7.6	6.3	2.2	0.35	1.20	-	-	-	24	5.1	-	-	-	-	17.3	5.7	5.7	1.76	0.22	10

Note: 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