

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed107 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	Auscott(Togo), Togo
Date Desc.:	15/07/86	Elevation:	194 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6663500 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	744300 Datum: AGD66	Drainage:	No Data

Geology

ExposureType:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	No Data	Substrate Material:	No Data

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	No Data	Relief:	No Data
Elem. Type:	Terrace flat	Slope Category:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.15
		Great Soil Group:	Brown clay

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.12 m	Very dark greyish brown (10YR3/2-Moist); Very dark greyish brown (10YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Moderate grade of structure, <2 mm, Granular; Earthy fabric; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.12 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1.1 m	Very dark greyish brown (10YR3/2-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	1.1 - 1.9 m	Dark yellowish brown (10YR3/4-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter);
B22	1.9 - 2.69 m	Brown (10YR4/3-Moist); , N30, 0-2% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.7 (pH meter);

Morphological Notes

A11p Top 12cm is apparently a plough layer - deep self mulching. The profile to 100cm (approx) is a dark brown colour, definitely not grey or black. Lenticular structure gives way to coarser wedges at 50cm. The B2 horizon becomes gradually light

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A12 er brown/red with depth. Carbonate very rare below 160cm. There is inwashed (?) or in situ sand (yellow) at 190-200cm - possibly an included sedimentary feature.

Observation Notes

Parent Rock: alluvial sediment, clay, parna on third fan, Namoi

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.02	8.38A	0.192A	25.44B	12.52	1.45	1.44			
0 - 0.1	8.54A	0.139A	21.24B	14.84	1.4	1.77			
0.12 - 0.2	8.94A	0.132A	24.61B	16.63	0.95	2.02			
0.3 - 0.4	9.04A	0.195A	19.61B	17.5	0.71	3.15			
0.7 - 0.8	9.19A	0.265A	17.96B	17.81	0.79	5.36			
1.2 - 1.3	9.21A	0.282A	12.66B	17.31	0.76	5.54			
2.5 - 2.6	9.08A	0.171A	14.65B	20.33	0.77	6.18			

Depth	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
m	%	%	mg/kg	%	%	%	Mg/m ³	GV	CS	FS %	Silt Clay
0 - 0.02	0.1B	0.97C									19.9 59.7
0 - 0.1	0.1B	1.1C	33.4J								19.5 58
0.12 - 0.2	0.4B	0.66C	12.3J								19.5 60.1
0.3 - 0.4	1.2B	0.55C	11J								19.5 58.9
0.7 - 0.8	0.9B	0.47C	27.9J								21.5 59
1.2 - 1.3	0.6B	0.24C	26J								26.2 55
2.5 - 2.6	0.1B	0.15C	20J								21.8 61

[illegible]

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
19B1	Carbonates - manometric
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6B3	Total organic carbon - high frequency induction furnace, infrared
7B1	Water soluble nitrate - automated colour
9B1	Bicarbonate-extractable phosphorus - manual colour
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method