

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed072 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	K.J. Smith	Locality:	Auscott(Togo), Togo
Date Desc.:	20/01/87	Elevation:	192 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6668300 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 plain	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:	Ug5.25
		Great Soil Group:	Grey clay

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark grey (10YR4/1-Moist); ; Light medium clay; Moderate grade of structure, <2 mm, Granular; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 8.6 (pH meter); Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Dark grey (10YR4/1-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 8.8 (pH meter);
A13	0.25 - 0.55 m	Dark grey (10YR4/1-Moist); ; Medium clay; Moderate grade of structure, 10-20 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; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
A14	0.55 - 0.8 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 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 strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A15	0.8 - 1.45 m	Dark greyish brown (10YR4/2-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 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; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Gradual, Smooth change to -
B21	1.45 - 2.79 m	Yellowish brown (10YR5/6-Moist); ; Medium clay; Moderate grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 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; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9.5 (pH meter);

Morphological Notes

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Observation Notes

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

Site Notes

The cotton depressions contain coarse sand grains. The hole was drilled on a cotton mound 20cm higher than the depressions.
The sand flooded down furrows may be the source of the sand in profile. High terrace. An old drainage channel is sug

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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	8.98A	0.178A	21.26B	10.46	1.66	1.66			
0 - 0.1	8.83A	0.204A	23.02B	13.13	1.36	1.73			
0.1 - 0.2	8.95A	0.199A	23.19B	12.47	1.19	1.7			
0.3 - 0.4	9.23A	0.276A	22.65B	15.61	0.84	4.07			
0.7 - 0.8	9.33A	0.557A	14.68B	17.87	0.89	8.98			
1.2 - 1.3	9.23A	0.697A	15.77B	17.56	1.1	9.58			
2.5 - 2.6	9.56A	0.431A	11.66B	13.8	0.7	7.68			

Depth	CaCO ₃	Organic C	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m³	Particle Size		Analysis	
								GV	CS	FS %	Silt Clay
m	%	%									
0 - 0.02	0.6B	0.63C								11.2	50.1
0 - 0.1	1.7B	0.72C	14.7J							10.9	50
0.1 - 0.2	1.4B	0.67C	10.4J							11.2	49.2
0.3 - 0.4	2.6B	0.5C	2.3J							11.3	53.9
0.7 - 0.8	3.7B	0.32C	<1J							11.5	55.8
1.2 - 1.3	4.1B	0.31C	6.5J							13.9	59.9
2.5 - 2.6	3.1B	0.11C	6.2J							13.7	48.1

[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