Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na018** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: W.T. Ward
Date Desc.: 29/02/88
Map Ref.: Sheet No. : 8837_S 1:50000
Northing/Long.: 6646300 AMG zone: 55
Easting/Lat.: 769100 Datum: AGD66
Locality: University of Sydney, I.A.Watson Research Farm
Elevation: 218 metres
Rainfall: No Data
Runoff: No Data
Drainage: No Data

Geology

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

Land Form

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

Surface Soil Condition (dry): Surface crust, Recently cultivated

Erosion:

Soil Classification

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

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark grey (10YR4/1-Dry); , 10YR52, 0-2% , 0-5mm, Distinct; Light medium clay; Massive grade of structure; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 10YR52, 0-2% , 0-5mm, Distinct; Medium clay; Massive grade of structure; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.7 m	Very dark grey (10YR3/1-Moist); , 10YR52, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 5-10 mm, Lenticular; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
A14	0.7 - 1 m	Brown (10YR4/3-Moist); , 7.5YR44, 2-10% , 5-15mm, Distinct; Heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
B21	1 - 1.9 m	Brown (10YR4/3-Moist); , 7.5YR32, 2-10% , 5-15mm, Prominent; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (pH meter);
B22	1.9 - 2.79 m	Brown (7.5YR5/4-Moist); , 7.5YR42, 20-50% , 15-30mm, Distinct; , 5YR44, 0-2% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);

Morphological Notes

A11 0-3cm is both cultivated and sandy but is too thin to separate from 0-10. Note inwashed

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A12 n colour, suggesting waterlogging.

Observation Notes

Parent Rock: alluvial sediment, clay, from sandstone, clay and basalt, with lime parna on third fan

Site Notes

On western side of Plant Breeding Institite 20m east of fence on edge of wheat field. Surface is very weak crusting, and quite sandy.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.02	8.36A	0.135A	22.33B	9.23	1.97	0.39				
0 - 0.1	8.66A	0.257A	19.43B	13.54	1.29	2.74				
0.1 - 0.2	9.01A	0.296A	17.1B	18.66	0.92	4.48				
0.3 - 0.4	9.24A	0.418A	14.87B	23.72	0.72	8.51				
0.7 - 0.8	8.93A	0.82A	14.14B	23.36	0.96	14.06				
1.2 - 1.3	8.91A	1.002A	11.07B	21.91	1.08	16.06				
2.5 - 2.6	8.88A	0.854A	7.6B	24.08	0.82	12.95				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	0.1B	1.47C									17.1	43.8
0 - 0.1	1.9B	1.13C	48.8J								14.8	41.5
0.1 - 0.2	3.5B	0.85C	5.9J								13.1	46.8
0.3 - 0.4	2.3B	0.63C	2.8J								13.2	46.6
0.7 - 0.8	1.8B	0.4C	9.2J								16.5	53
1.2 - 1.3	0.7B	0.1C	9.3J								15.4	55.8
2.5 - 2.6	1.1B	0.1C	2.7J								15.9	56.3

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.02									
0 - 0.1									
0.1 - 0.2									
0.3 - 0.4									
0.7 - 0.8									
1.2 - 1.3									
2.5 - 2.6									

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,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