Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed234** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: M. Korevaar
Locality: Department of Agriculture, Myall Vale Research Station
Date Desc.: 13/05/85
Elevation: 200 metres
Map Ref.: Sheet No. : 8837_N 1:50000
Rainfall: No Data
Northing/Long.: 6654900 AMG zone: 55
Runoff: No Data
Easting/Lat.: 749600 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
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Ug5.15
Great Soil Group: Grey 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); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.2 (pH meter); Few, fine (1-2mm) roots; Abrupt, Smooth change to -
A12	0.12 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.5 (pH meter); Common, fine (1-2mm) roots;
A13	0.25 - 0.55 m	Very dark brown (10YR2/2-Moist); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Earthy 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 8.5 (pH meter); Few, fine (1-2mm) roots;
A14	0.55 - 1.1 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Earthy 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, Medium (2 -6 mm), Nodules; Field pH 8.7 (pH meter); Few, fine (1-2mm) roots; Diffuse, Smooth change to -
B21	1.1 - 1.9 m	Brown (10YR4/3-Moist); , N30, 2-10% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1.9 - 2.97 m	Brown (10YR4/3-Moist); , N30, 2-10% , 0-5mm, Distinct; Medium clay; Massive grade of structure; 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, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

Observation Notes

Parent Rock: alluvial sediment, clay, second terraced fan, Namoi

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Site Notes

Height of cotton hill is 17 cm. Hole drilled on side of cotton hill. Cracks run perpendicular and parallel to furrows, crack measurements done on cotton hill.

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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	8.4A	0.143A	23.43B	12.52	1.53	0.95				
0 - 0.1	8.48A	0.124A	25.06B	21.15	1.35	0.77				
0.12 - 0.2	8.51A	0.093A	21.88B	22.12	1.22	0.92				
0.3 - 0.4	8.84A	0.126A	19.27B	25.78	0.77	2.01				
0.7 - 0.8	9.18A	0.255A	17.59B	28.55	0.71	4.9				
1.2 - 1.3	9.36A	0.336A	15.21B	28.56	0.66	5.95				
2.5 - 2.6	9.25A	0.392A	12.52B	29.8	0.55	6.19				

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	1.29C									24.4	58.5
0 - 0.1	0.1B	1.16C	52.2J								24.4	55.4
0.12 - 0.2	0.1B	1.16C	42.8J								24.2	56.1
0.3 - 0.4	0.2B	0.93C	27.1J								25.1	58
0.7 - 0.8	1.2B	0.75C	47J								24.5	57.7
1.2 - 1.3	2.6B	0.37C	27.7J								26.6	53.5
2.5 - 2.6	2B	0.17C	19.4J								21	53.7

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									
0.12 - 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