Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed016 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: K.J. Smith Locality: Geoff Hall, Tee Trees

Date Desc.: Elevation: 09/07/85 305 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6676700 AMG zone: 55 Runoff: No Data 783300 Datum: AGD66 Easting/Lat.: 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 DataPattern Type:No DataMorph. Type:No DataRelief:No Data

Elem. Type: Terrace flat Slope Category: Very gently sloped

Slope: 0 % Aspect: No Data

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

Erosion:

Soil Classification

Australian Soil Classification:Mapping Unit:N/AN/APrincipal Profile Form:Ug5.15ASC Confidence:Great Soil Group:Grey clay

Confidence level not specified

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p 0 - 0.06 m Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, fine (1-2mm) roots; Sharp, Smooth change to -

A12 0.06 - 0.25 m Dark brown (7.5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Field pH 8.5 (pH meter); Few,

very fine (0-1mm) roots;

A13 0.25 - 0.75 m Dark brown (7.5YR3/2-Moist); , 10YR76, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate

grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH

8.5 (pH meter); Gradual, Smooth change to -

B21 0.75 - 1 m Reddish brown (5YR4/3-Moist); ; Heavy clay; Moderate grade of structure, 50-100 mm, Angular

blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Weak consistence; Very

few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter);

B22 1 - 2.2 m Dark reddish brown (5YR3/3-Moist); , 5YR42, 0-2% , 0-5mm, Distinct; , 5YR22, 0-2% , 0-5mm,

Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Diffuse, Smooth

C 2.2 - 3.35 m Dark reddish brown (5YR3/4-Moist); , 5YR42, 0-2% , 0-5mm, Faint; Medium clay; Moderate

grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence;

Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

A11p Diffuse colour change from 7.5YR3/2 to 5YR4/3 at ~80cm. Core quite moist and although

clay content is quite high pedality is only moderate. A brown soil. 120-130 and 250-260

have a fine earthy and earthy-polished appearance and friable char

A12 acter - is this a fine second structure within the ab?

Observation Notes

Parent Rock: , , second (brown parna) terraced

Site Notes

Reddish brown Q. Uncultivated contour bank shows several cracks to 50mm.

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	К	Na Cmol (+)	Acidity)/kg			%
0 - 0.02	8.7A	0.133A	36.47B	12.62	2.09	0.52				
0 - 0.06	8.39A	0.158A	37.3B	16	2.26	0.67				
0.1 - 0.2	8.72A	0.175A	32.72B	20	0.98	1.7				
0.3 - 0.4	8.91A	0.228A	28.5B	23.33	0.86	3.36				
0.7 - 0.8	9.14A	0.284A	24.18B	25.76	0.89	6.38				
1.2 - 1.3	9.13A	0.315A	22.19B	24.26	0.78	6.26				
2.5 - 2.6	8.97A	0.333A	22.23B	23.31	0.51	4.32				
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Partic	e Size	Analysis
•		C	Р	Р	N	K	Density	GV CS	S FS	Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3		%	
0 - 0.02	0.4B	1.41C	07.51							19.2 61
0 - 0.06	0.8B	1.51C	37.5J							21 59
0.1 - 0.2	2.2B	1.01C	3.8J							18.8 59.3
0.3 - 0.4	2.4B	0.91C	2.4J							19.1 59.7
0.7 - 0.8	2.7B	0.63C	26.1J							20.1 60.6
1.2 - 1.3	1.9B	0.44C	33J							23.2 57.7
2.5 - 2.6	1.1B	0.26C	22.5J							30.3 48.9
Depth	COLE	_			olumetric V				(sat	K unsat
m		Sat.	0.05 Bar	0.1 Bar g/	0.5 Bar /g - m3/m	1 Bar 3	5 Bar 15 B		nm/h	mm/h

^{0 - 0.02} 0 - 0.06 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 Silt (%) - Coventry and Fett pipette method