

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed091 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

| | | | |
|------------------------|----------------------------|-------------------|----------------------|
| Desc. By: | W.T. Ward | Locality: | Auscott Ltd, Auscott |
| Date Desc.: | 23/06/86 | Elevation: | 195 metres |
| Map Ref.: | Sheet No. : 8837_N 1:50000 | Rainfall: | No Data |
| Northing/Long.: | 6665800 AMG zone: 55 | Runoff: | No Data |
| Easting/Lat.: | 748500 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: | Ug5.14 |
| | | Great Soil Group: | Grey clay |

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

| | | |
|------|---------------|---|
| A11p | 0 - 0.1 m | Dark grey (10YR4/1-Moist); Dark grey (10YR4/1-Dry); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very strong consistence; Field pH 8.7 (pH meter); Few, medium (2-5mm) roots; Diffuse, Smooth change to - |
| A12 | 0.1 - 0.25 m | Very dark grey (10YR3/1-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; |
| A13 | 0.25 - 0.55 m | Very dark grey (10YR3/1-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; Strong consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; |
| A14 | 0.55 - 1 m | Very dark grey (10YR3/1-Moist); ; Medium clay; Moderate grade of structure, 100-200 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 9 (pH meter); Few, very fine (0-1mm) roots; |
| A15 | 1 - 1.3 m | Very dark grey (10YR3/1-Moist); , 10YR53, 2-10% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak 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; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to - |
| B2 | 1.3 - 2.61 m | Brown (10YR5/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter); |

Morphological Notes

A11p Surface horizon appears massive by cultivation. Core very dry. One small silica coarse fragment in top, angular. Otherwise coarse sand. Second colour in 120-130 is subsoil colour. ?MVpH.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, parna on fourth fan, Namoi

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Site Notes

Height of cotton hills 10cm. Site described after rain. Cores were collected before rain.

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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 | 8.64A | 0.136A | 27.47B | 18.9 | 2.17 | 2.19 | | | |
| 0 - 0.1 | 8.19A | 0.144A | 26.07B | 21.67 | 2.55 | 1.89 | | | |
| 0.1 - 0.2 | 8.4A | 0.111A | 25.21B | 20.95 | 2.54 | 2.7 | | | |
| 0.3 - 0.4 | 8.75A | 0.181A | 25.74B | 20.77 | 1.59 | 5.67 | | | |
| 0.7 - 0.8 | 8.76A | 0.449A | 22.75B | 21.86 | 1.7 | 9.49 | | | |
| 1.2 - 1.3 | 8.66A | 0.91A | 21.7B | 22.09 | 1.82 | 10.15 | | | |
| 2.5 - 2.6 | 8.95A | 0.797A | 19.61B | 20.72 | 1.85 | 10.7 | | | |

[illegible][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 |