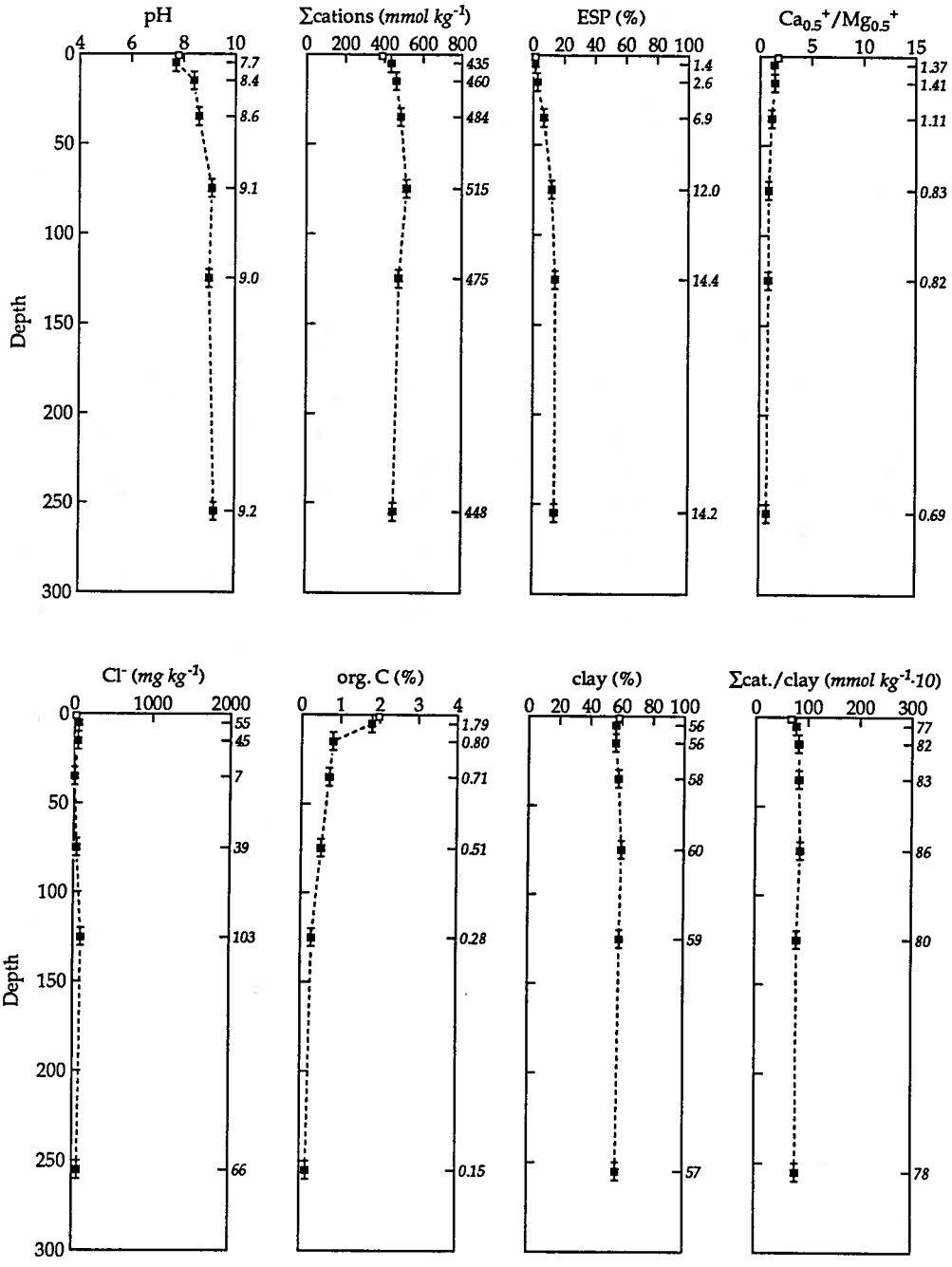
Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed144

Site location

Grid reference: 749700mE 6658700mN
Elevation: 199m
Farmer: Auscott Ltd
Farm name: Auscott
Site described by G. M. Roberts on 27 April, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: wheat, irrigated cotton
Visible cracks: width 1mm, 2 per metre, depth 1000mm

Site comments

Wheat stubble in field. Large deep cracks on surface. Very friable self mulching surface.

Site vegetation

The site was under wheat.

Profile description

Soil described by D. McGarry on 19 January, 1986. Drilled depth 262cm

Horizon	(cm)	(Sample; depth)
A_1	0–25	(1; 0–10) Very dark grey (10YR3/1, 10YR3/1 dry) medium clay; moderate 10–20mm subangular blocky structure, with moderate 2–5mm granular structure; very strong; rough-ped fabric; <2% 0.075–1mm pores; few very fine roots; pH 7.5;
A_1		(2; 10–20) Dark grey (10YR4/1) medium heavy clay; moderate 10–20mm subangular blocky structure; very firm; smooth-ped fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.6; genetic boundary, clear, smooth change to
A_1	25–70	(3; 30–40) Dark grey (10YR4/1) medium heavy clay; moderate 10–20mm angular blocky structure; very firm; smooth-ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots pH 8.8; genetic boundary, clear, smooth change to
A_1	70–175	(4; 70–80) Dark grey (10YR4/1) medium heavy clay; moderate 10–20mm angular blocky structure; very firm; smooth-ped fabric; <2% faint fine white (10YR8/2)

calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0;

A_1 (5; 120–130) Dark grey (10YR4/1) medium heavy clay; weak 20–50mm lenticular structure, breaking to moderate 10–20mm angular blocky structure; very firm; smooth-ped and polished ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0; genetic boundary, gradual, smooth change to

B_2 175+ (6; 250–260) Dark brown (7.5YR4/4) light medium clay; 2–10% prominent medium dark brown (7.5YR4/4) patches of soil, filling cracks; moderate 50–100mm wedge structure, breaking to moderate 10–20mm angular blocky structure; very firm; weak slickensides, smooth-ped and polished ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0;

Parent rock: alluvial sediment, clay

Soil classification

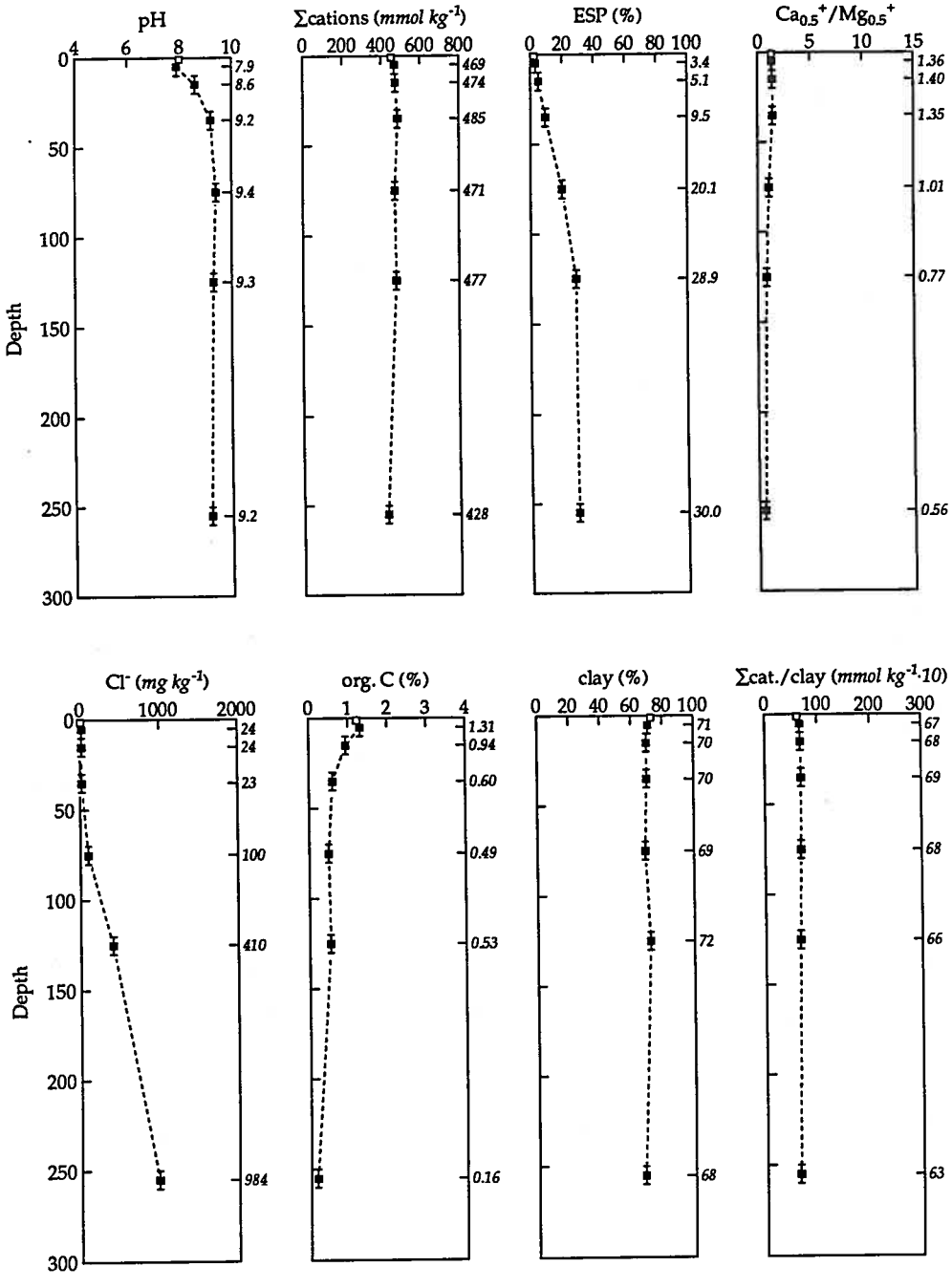
Principal profile form: Ug5.25
Great soil group: Grey clays
Soil taxonomy unit: Pellusterts

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	8.0	10.7	1.23	<0.1	14	11	73
1	$A_1$1	0–10	7.9	11.7	1.31	<0.1	15	12	71
2	$A_1$1	10–20	8.6	11.4	0.94	<0.1	16	12	70
3	$A_1$2	30–40	9.2	14.9	0.60	0.3	16	13	70
4	$A_1$3	70–80	9.4	39.2	0.49	1.5	17	13	69
5	$A_1$3	120–130	9.3	63.3	0.53	0.3	14	13	72
6	B_2	250–260	9.2	102.3	0.16	1.2	16	15	68

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
11	–	–	236	176	30.9	10.0	<1	453	2.2
24	17.6	104	247	181	25.6	15.9	<1	469	3.4
24	11.7	55	252	180	17.4	24.4	<1	474	5.1
23	4.7	43	244	181	14.2	46.3	<1	485	9.5
100	12.7	54	182	180	14.4	94.7	<1	471	20.1
410	16.5	66	141	182	16.8	138.0	<1	477	28.9
984	0.8	42	103	185	11.9	128.4	<1	428	30.0

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed145

Site location

Grid reference: 752500mE 6658600mN
Elevation: 200m
Farmer: V.T.(Vic) Melbourne
Farm name: Yarral
Site described by M. Korevaar on 24 April, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: irrigated cotton
Visible cracks: width 1mm

Site vegetation

The site was under cotton, and included bare ground.

Profile description

Soil described by E. Veldhuis on 6 May, 1985. Drilled depth 269cm

Horizon	(cm)	(Sample; depth)
A_1	0–43	(1; 0–10) Very dark greyish brown (10YR3/2, 10YR4/1 dry) light medium clay; moderate 50–100mm subangular blocky structure, with moderate 2–5mm granular structure; moderately strong; earthy fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 7.8;
A_1		(2; 10–20) Very dark greyish brown (10YR3/2, 10YR4/1 dry) medium clay; moderate 50–100mm subangular blocky structure, with moderate 2–5mm granular structure; moderately strong; earthy fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; few fine roots; pH 8.0;
A_1		(3; 30–40) Very dark greyish brown (10YR3/2) medium clay; moderate 50–100mm subangular blocky structure; moderately strong; earthy and smooth-ped fabric; <2% distinct fine light grey (10YR7/1) calcareous nodules; 2–5% <5mm cracks; 2–5% 0.075–1mm pores; few fine roots; pH 8.2; arbitrary boundary,
A_1	43–170	(4; 70–80) Very dark greyish brown (10YR3/2) medium clay; <2% faint fine dark greyish brown (10YR4/2) patches of sediment, filling cracks; weak 20–50mm subangular blocky structure; moderately firm; moderate slickensides, nodular fracture; smooth-ped fabric; <2% distinct fine light grey (10YR7/1) calcareous nodules; <2% medium manganese nodules; 2–5% <5mm cracks; <2% 0.075–1mm

pores; few very fine roots; pH 8.5;

A_1 (5; 120–130) Very dark greyish brown (10YR3/2) medium heavy clay; apedal massive; moderately firm; nodular fracture; smooth–ped fabric; <2% distinct medium grey (10YR6/1) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.8; genetic boundary, very diffuse, smooth change to

$2B_2$ 170+ (6; 250–260) Strong brown (7.5YR5/6) clayey sand; 2–10% prominent medium dark reddish brown (5YR3/4) flecks produced by faunal mixing; apedal <2mm single–grained structure moderate 5–10mm cast granular structure; moderately weak; granular fracture; sandy fabric; 2–10% distinct medium dark grey (5YR4/1) clayey cutans in cracks and cavities; <2% <5mm cracks; 2–5% 0.075–1mm pores; pH 8.0;

Parent rock: alluvial sediment, clay, sand

Soil classification

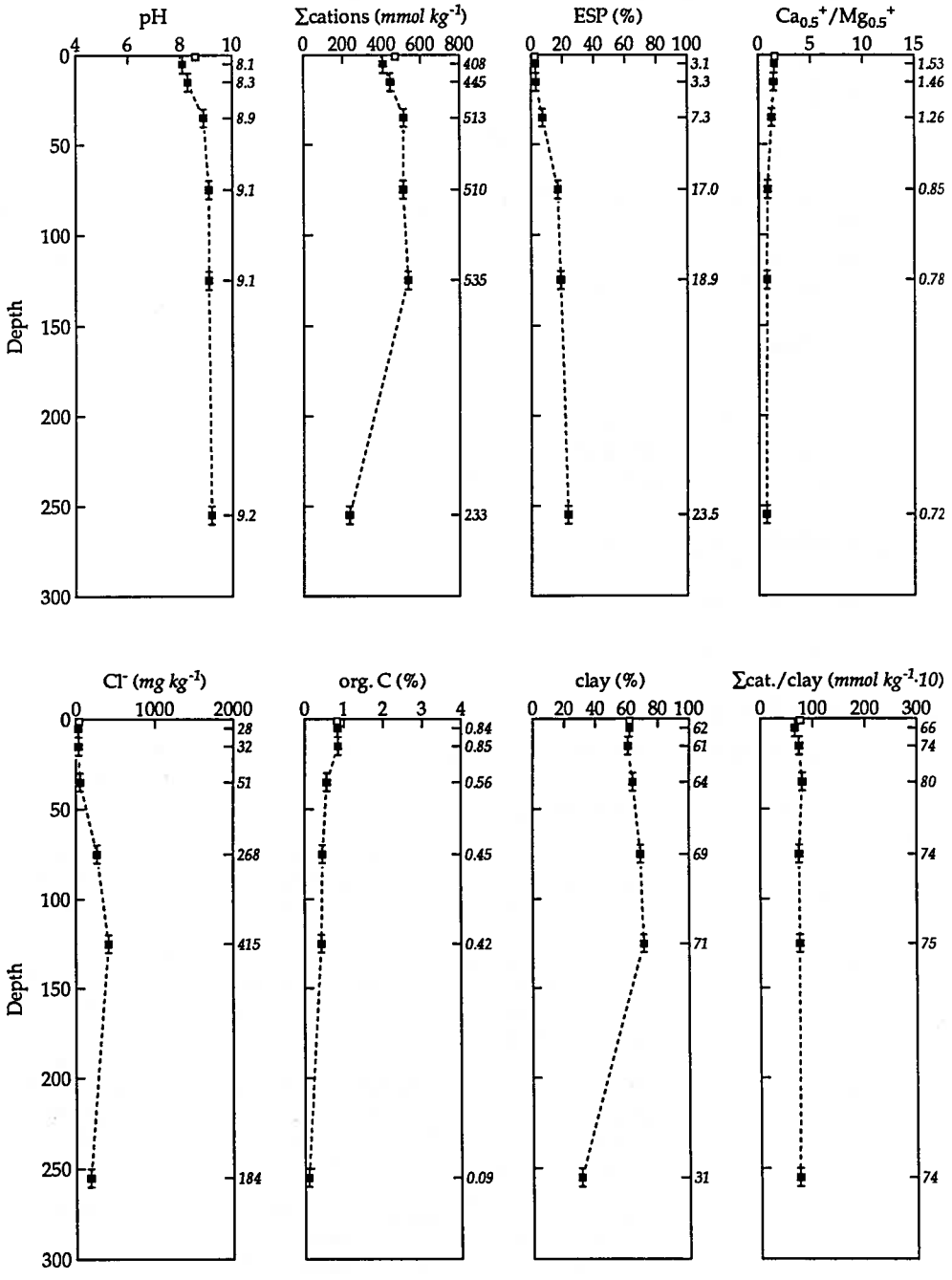
Principal profile form: Ug5.17
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	8.6	16.4	0.82	<0.1	16	20	62
1	$A_1$1	0–10	8.1	13.2	0.84	0.1	17	20	62
2	$A_1$1	10–20	8.3	12.8	0.85	0.1	21	17	61
3	$A_1$1	30–40	8.9	23.3	0.56	0.9	18	17	64
4	$A_1$2	70–80	9.1	47.1	0.45	1.3	12	17	69
5	$A_1$2	120–130	9.1	52.8	0.42	0.6	7	21	71
6	$2B_2$	250–260	9.2	20.6	0.09	0.1	57	11	31

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
37	–	–	266	169	24.1	12.6	<1	471	2.7
28	2.2	46	230	150	15.1	12.6	<1	408	3.1
32	0.2	36	246	169	15.8	14.6	<1	445	3.3
51	0.2	11	260	206	10.4	37.3	<1	513	7.3
268	0.2	17	191	224	8.2	87.0	<1	510	17.0
415	0.2	43	187	238	9.2	100.9	<1	535	18.9
184	0.2	15	75	104	<0.1	54.8	<1	233	23.5

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed146

Site location

Grid reference: 755300mE 6658500mN
Elevation: 202m
Farmer: Auscott Ltd
Farm name: Auscott
Site described by G. M. Roberts on 24 May, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: irrigated cotton
Visible cracks: width 1mm

Site vegetation

The site was under cotton.

Profile description

Soil described by D. McGarry on 8 May, 1985. Drilled depth 281cm

Horizon	(cm)	(Sample; depth)
A_1p	0–5	(1; 0–5) Very dark greyish brown (10YR3/2, 10YR3/2 dry) medium clay; moderate 2–5mm granular structure; moderately weak; rough-ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 9.0; arbitrary boundary,
A_1p	5–12	(2; 5–10) Very dark greyish brown (10YR3/2) medium heavy clay; moderate 10–20mm angular blocky structure; moderately strong; rough-ped and smooth-ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 9.0; arbitrary boundary,
A_1	12–70	(3; 12–20) Very dark greyish brown (10YR3/2) medium heavy clay; weak 20–50mm angular blocky structure; very firm; nodular fracture; smooth-ped fabric; <2% faint fine very pale brown (10YR8/3) calcareous nodules; <2% 5–10mm cracks; <2% 0.075–1mm pores; few fine roots; pH 9.0;
A_1		(4; 30–40) Very dark greyish brown (10YR3/2) heavy clay; <2% distinct medium pale brown (10YR6/3) patches of sediment, filling cracks; moderate 20–50mm lenticular structure, breaking to moderate 10–20mm angular blocky structure; moderately firm; moderate slickensides, smooth-ped fabric; <2% faint medium very pale brown (10YR8/3) calcareous nodules; <2% 5–10mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.0; genetic boundary, clear, smooth

change to

B_2	70+	(5; 70–80) Brown (7.5YR5/4) heavy clay; weak 20–50mm subangular blocky structure; very firm; nodular fracture; fabric; 2–10% distinct coarse very dark greyish brown (10YR3/2) clayey veins; <2% faint fine pinkish white (7.5YR8/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 9.0;
B_2		(6; 120–130) Brown (7.5YR5/4) medium heavy clay; weak 20–50mm subangular blocky structure; moderately weak; nodular fracture; fabric; 2–10% distinct coarse very dark grey (10YR3/1) clayey veins; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0;
B_2		(7; 250–260) Brown (7.5YR5/4) medium heavy clay; 2–10% distinct medium very dark grey (N3/) flecks produced by faunal mixing; moderate 20–50mm lenticular structure, breaking to moderate 10–20mm angular blocky structure; moderately weak; fabric; 10–20% prominent very coarse red (2.5YR5/8) clayey veins; 2–10% coarse clayey tubules; <2% 5–10mm cracks; <2% 0.075–1mm pores; pH 9.0;

Parent rock: alluvial sediment, clay

Comments

Large crack infill from 170–281cm.

Soil classification

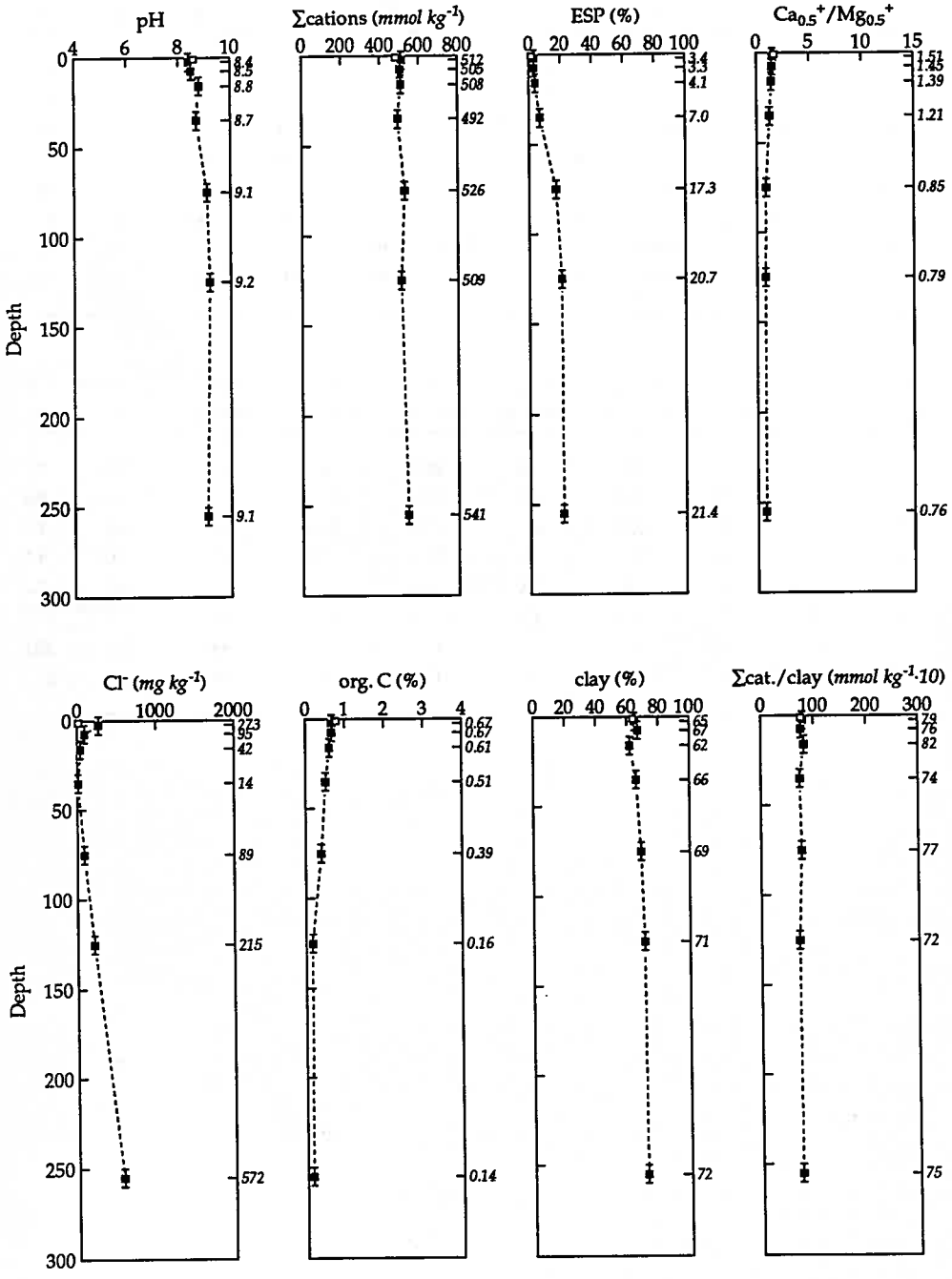
Principal profile form: Ug5.16
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p1	0–2	8.6	15.6	0.78	0.2	18	17	64
1	A_1p1	0–5	8.4	61.8	0.67	0.4	18	15	65
2	A_1p2	5–10	8.5	32.4	0.67	0.4	17	15	67
3	$A_1 1$	12–20	8.8	24.4	0.61	0.4	20	17	62
4	$A_1 2$	30–40	8.7	25.5	0.51	0.2	15	17	66
5	$B_2 1$	70–80	9.1	38.5	0.39	0.4	12	18	69
6	$B_2 2$	120–130	9.2	53.7	0.16	0.7	11	17	71
7	$B_2 3$	250–260	9.1	76.2	0.14	0.6	11	16	72

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
18	–	–	278	168	28.2	8.9	<1	483	1.8
273	104.6	23	284	187	23.6	17.3	<1	512	3.4
95	77.6	31	275	190	23.2	16.8	<1	505	3.3
42	54.2	26	270	195	22.3	20.7	<1	508	4.1
14	59.9	18	241	200	16.4	34.2	<1	492	7.0
89	37.2	37	191	226	17.3	91.0	<1	526	17.3
215	50.7	24	171	215	17.7	105.4	<1	509	20.7
572	15.3	16	177	231	17.2	115.8	<1	541	21.4

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed147

Site location

Grid reference: 758000mE 6658500mN
Elevation: 206m
Farmer: Clive Jones
Farm name: Thornbro
Site described by G. M. Roberts on 2 April, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: sunflower, irrigated cotton
Visible cracks: width 2mm, depth >800mm

Site vegetation

The site was under sunflower.

Profile description

Soil described by D. McGarry on 9 May, 1985. Drilled depth 330cm

Horizon	(cm)	(Sample; depth)
A_1p	0–9	(1; 0–9) Very dark grey (10YR3/1, 10YR3/1 dry) medium clay; moderate 2–5mm granular structure, with moderate 10–20mm subangular blocky structure; very firm; rough–ped fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; common fine roots; pH 7.8; arbitrary boundary,
A_1x	9–18	(2; 10–18) Very dark grey (10YR3/1, 10YR3/1 dry) medium clay; weak 50–100mm angular blocky structure; very strong; nodular fracture; smooth–ped and rough–ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 8.5; arbitrary boundary,
A_1	18–95	(3; 20–30) Very dark grey (10YR3/1) medium clay; moderate 10–20mm lenticular structure; very strong; smooth–ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; 2–5% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 9.0;
A_1		(4; 70–80) Very dark grey (10YR3/1) medium heavy clay; moderate 10–20mm lenticular structure; very strong; smooth–ped fabric; <2% faint fine white (10YR8/2) calcareous nodules; 2–5% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 9.0; genetic boundary, clear, smooth change to

B_2	95–160	(5; 120–130) Dark brown (7.5YR4/4) medium heavy clay; weak 20–50mm subangular blocky structure; moderately firm; nodular fracture; smooth–ped and rough–ped fabric; 2–10% faint coarse very dark grey (N3/) clayey veins; <2% faint fine white (10YR8/1) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0; genetic boundary, clear, smooth change to
B_2n	160–280	(6; 250–260) Dark brown (7.5YR4/4) medium heavy clay; strong 10–20mm lenticular structure, breaking to strong 10–20mm angular blocky structure; moderately firm; weak slickensides, smooth–ped fabric; 10–20% prominent fine dark reddish grey (5R3/1) manganese cutans in cracks and cavities; <2% distinct very coarse white (10YR8/1) calcareous nodules; 2–5% <5mm cracks; <2% 0.075–1mm pores; pH 8.7; stratigraphic boundary, abrupt, smooth change to
$2B_2$	280+	(7; 290–300) Dark brown (7.5YR4/4) sandy clay; weak 50–100mm subangular blocky structure, with moderate 5–10mm angular blocky structure; moderately strong; weak slickensides, rough fracture; rough–ped and smooth–ped fabric; 2–10% prominent coarse very dark grey (N3/) clayey veins; <2% distinct fine white (10YR8/1) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; 2–10% 2–6mm rounded quartz fragments; pH 8.5;

Parent rock: alluvial sediment, clay, mixed texture, with lime

Comments

Very large cracks on surface. Sunflower recently harvested. Surface condition dry (good fine self–mulching top), subsoil reddish, slight reddish tint to field topsoil. ?old alluvium. Topsoil is quite dark. From 280cm, a break to sandy clay with large infilled cracks. This appears to be discontinuous with upper soil material. No bedding of sand grains evident. Compacted (?by cultivation) from 9–18cm.

Soil classification

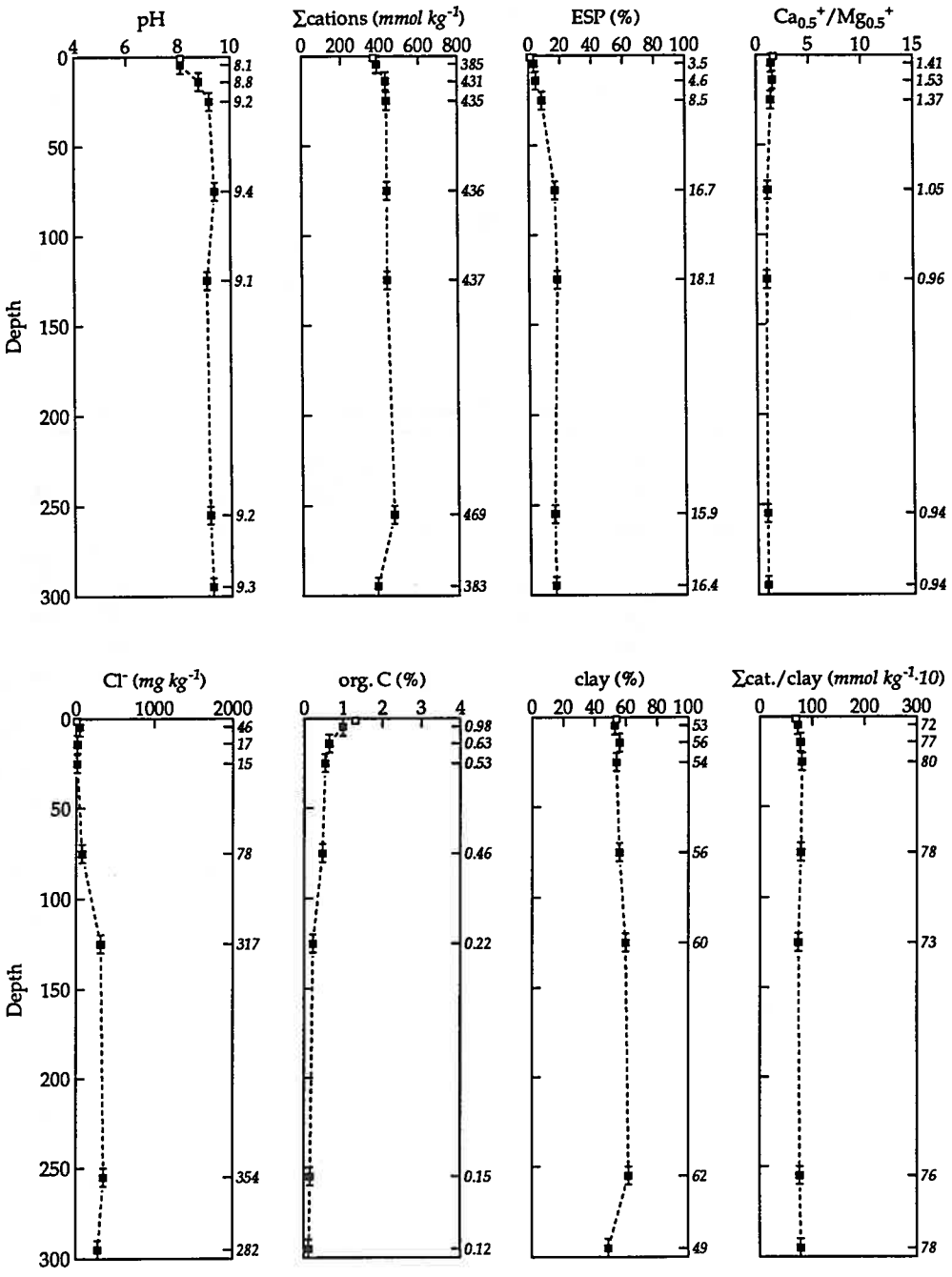
Principal profile form: Ug5.16
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	8.1	9.5	1.30	<0.1	24	20	54
1	A_1p	0–9	8.1	11.1	0.98	<0.1	26	19	53
2	A_1x	10–18	8.8	9.8	0.63	0.1	23	20	56
3	A_11	20–30	9.2	18.0	0.53	0.8	24	19	54
4	A_12	70–80	9.4	31.3	0.46	0.5	21	21	56
5	B_2	120–130	9.1	40.0	0.22	0.4	18	21	60
6	B_2n	250–260	9.2	49.0	0.15	0.9	18	20	62
7	$2B_2$	290–300	9.3	43.6	0.12	2.8	32	15	49

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
8	–	–	208	128	27.2	3.9	<1	367	1.1
46	2.7	27	205	146	20.8	13.4	<1	385	3.5
17	2.2	12	240	156	15.1	19.6	<1	431	4.6
15	0.2	6	225	164	9.5	36.8	<1	435	8.5
78	0.2	14	181	171	10.9	72.7	<1	436	16.7
317	7.9	21	169	176	12.2	78.9	<1	437	18.1
354	4.2	18	184	197	13.7	74.7	<1	469	15.9
282	2.1	16	150	159	10.7	62.8	<1	383	16.4

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed148

Site location

Grid reference: 760700mE 6658400mN
Elevation: 212m
Farmer: W.A.(Bill) Cameron
Farm name: Locharba
Site described by G. M. Roberts on 25 July, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: high terrace
Surface dry when sampled
Weak surface crust, trampled
Use: sorghum
Visible cracks: width 1mm

Site vegetation

The following species were noted:

?Stipa, Enteropogon acicularis, Urochloa panicoides, Echinochloa crus-galli, Panicum ?decompositum, Bassia quinquecuspis, Chenopodium pseudomicrophyllum, Juncus usitatus.

Profile description

Soil described by M. Korevaar on 29 April, 1985. Drilled depth 257cm

Horizon	(cm)	(Sample; depth)
A_1	0–18	(1; 0–10) Very dark greyish brown (10YR3/2, 10YR4/2 dry) light clay; weak 20–50mm subangular blocky structure; moderately strong; nodular fracture; earthy fabric; <2% <5mm cracks; <2% 1–2mm pores; common very fine roots; pH 6.5;
A_1		(2; 10–18) Very dark greyish brown (10YR3/2) light clay; weak 20–50mm subangular blocky structure; moderately strong; nodular fracture; earthy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 6.0; genetic boundary, abrupt, smooth change to
B_2	18–86	(3; 30–40) Very dark greyish brown (10YR3/2) heavy clay; apedal massive; rigid; nodular fracture; earthy fabric; <2% distinct fine light grey (10YR7/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 9.0;
B_2		(4; 70–80) Dark brown (7.5YR4/2) medium heavy clay; <2% prominent fine very pale brown (10YR8/3) flecks produced by faunal mixing; weak 20–50mm subangular blocky structure; very strong; nodular fracture; earthy fabric; <2% medium calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very

fine roots; pH 8.8; genetic boundary, gradual, smooth change to

B_2 86–220 (5; 120–130) Dark yellowish brown (10YR4/4) light medium clay; 2–10% distinct medium dark grey (10YR4/1) flecks produced by faunal mixing; moderate 50–100mm prismatic structure, breaking to moderate 10–20mm angular blocky structure; moderately strong; smooth-ped fabric; <2% distinct coarse very pale brown (10YR8/3) calcareous soft segregations; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.7;

B_2 220+ (6; 250–260) Brown (10YR4/3) medium heavy clay; <2% distinct fine yellowish brown (10YR5/6) mottles; moderate 10–20mm lenticular structure, breaking to strong 5–10mm angular blocky structure; moderately firm; smooth-ped fabric; <2% distinct fine yellowish brown (10YR5/6) ferruginous stains; <2% distinct coarse very pale brown (10YR8/3) calcareous nodules; <2% fine manganese stains; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0;

Comments

Lab pH recorded as 9.11 altered to 7.11 after analysis of pH data.

Soil classification

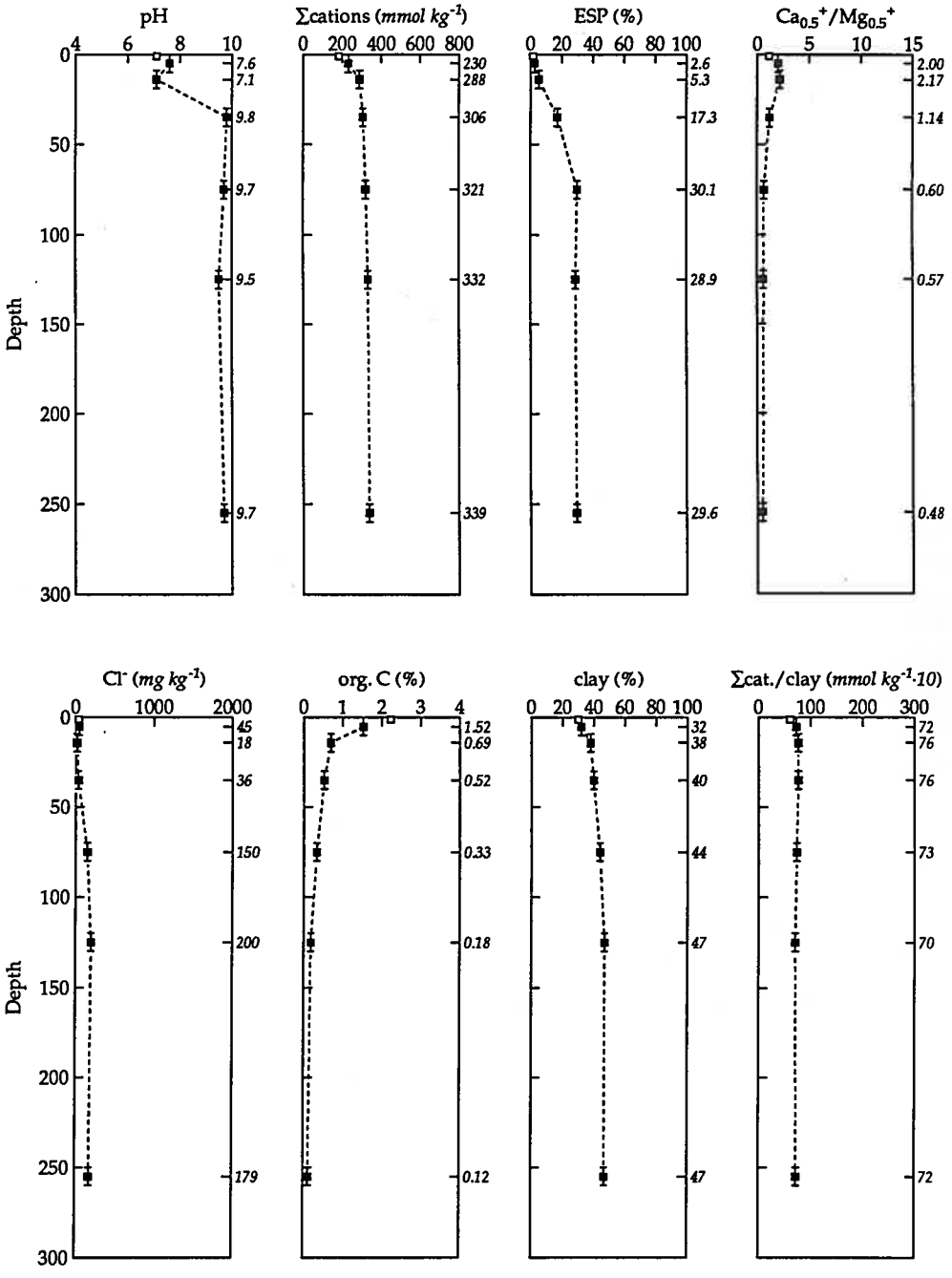
Principal profile form: Ug5.15
Great soil group: Brown clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1	0–2	7.1	15.7	2.22	<0.1	47	20	30
1	A_1	0–10	7.6	22.1	1.52	0.1	48	18	32
2	A_1	10–18	7.1	18.5	0.69	1.2	42	17	38
3	B_2	30–40	9.8	30.8	0.52	3.0	37	19	40
4	B_2	70–80	9.7	66.1	0.33	2.8	31	22	44
5	B_2	120–130	9.5	75.5	0.18	1.0	27	25	47
6	B_2	250–260	9.7	65.3	0.12	1.4	33	18	47

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
36	–	–	81	71	26.1	2.8	<1	180	1.6
45	25.3	17	141	70	12.5	6.0	<1	230	2.6
18	11.1	4	183	85	5.3	15.2	<1	288	5.3
36	2.3	1	133	117	3.8	52.9	<1	306	17.3
150	2.2	4	82	137	6.2	96.7	<1	321	30.1
200	1.8	12	83	146	6.6	96.0	<1	332	28.9
179	3.7	7	76	156	7.1	100.2	<1	339	29.6

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed149

Site location

Grid reference: 763550mE 6658350mN
Elevation: 221m
Farmer: Robin Gourley
Farm name: Blue Hills
Site described by D. Page on 2 May, 1985
The site is located at a grid point

Site description

Slope: 0° Slope direction: 180°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Coarse self-mulching surface, cultivated
Use: wheat
Visible cracks: width 1mm

Site comments

Sand over clay. Drill depth uncertain.

Site vegetation

The site was under wheat.

Profile description

Soil described by W. T. Ward on 23 January, 1986. Drilled depth 283cm

Horizon	(cm)	(Sample; depth)
A_1p	0–10	(1; 0–10) Dark brown (7.5YR3/2, 7.5YR3/2 dry) medium clay; moderate 5–10mm granular structure; moderately firm; earthy fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.0; plough sole, abrupt, smooth change to
A_1	10–95	(2; 10–20) Very dark greyish brown (10YR3/2) medium clay; weak 20–50mm angular blocky structure; moderately strong; nodular fracture; earthy fabric; <2% <5mm cracks; few very fine roots; pH 8.3;
A_1		(3; 30–40) Very dark greyish brown (10YR3/2) medium heavy clay; <2% distinct fine dark greyish brown (10YR4/2) weak 10–20mm angular blocky structure; very firm; smooth fracture; earthy fabric; <2% fine calcareous nodules; <2% <5mm cracks; few very fine roots; pH 8.5;
A_1v		(4; 70–80) Very dark greyish brown (10YR3/2) medium heavy clay; <2% distinct fine very pale brown (10YR7/4) patches of sediment, filling cracks; apedal massive

		moderately strong; smooth fracture; earthy and smooth-ped fabric; <2% faint fine brown (10YR5/3) calcareous nodules; <2% <5mm cracks; few very fine roots; pH 8.8; genetic boundary, diffuse, smooth change to
B_2	95+	(5; 120–130) Reddish brown (5YR4/4) light medium clay; 2–10% prominent coarse very dark grey (5YR3/1) organic stains; weak 50–100mm subangular blocky structure, with moderate 2–5mm cast granular structure; moderately firm; smooth fracture; earthy fabric; <2% distinct medium light reddish brown (5YR6/4) calcareous soft segregations; <2% <5mm cracks; pH 8.8;
B_2		(6; 250–260) Reddish brown (5YR4/4) medium clay; 2–10% distinct coarse very dark grey (5YR3/1) organic stains; moderate 50–100mm wedge structure, breaking to moderate 20–50mm subangular blocky structure; moderately strong; weak slickensides, polished ped and earthy fabric; <2% prominent coarse pinkish grey (7.5YR6/2) calcareous nodules; <2% <5mm cracks; pH 8.8;

Parent rock: alluvial sediment, mixed texture, with lime

Comments

149.02 is close to massive, ?cultivation pan. 250–260 is more like B2 than C. This resembles Myall Vale pH plots. MVpH. The sand in cracks suggests a younger alluvial addition. Soft lime at top of B 100–130, nodules below 200 ?suggest two lime events? The lime seems to occur as peaks on a continuous distribution with depth in B.

Soil classification

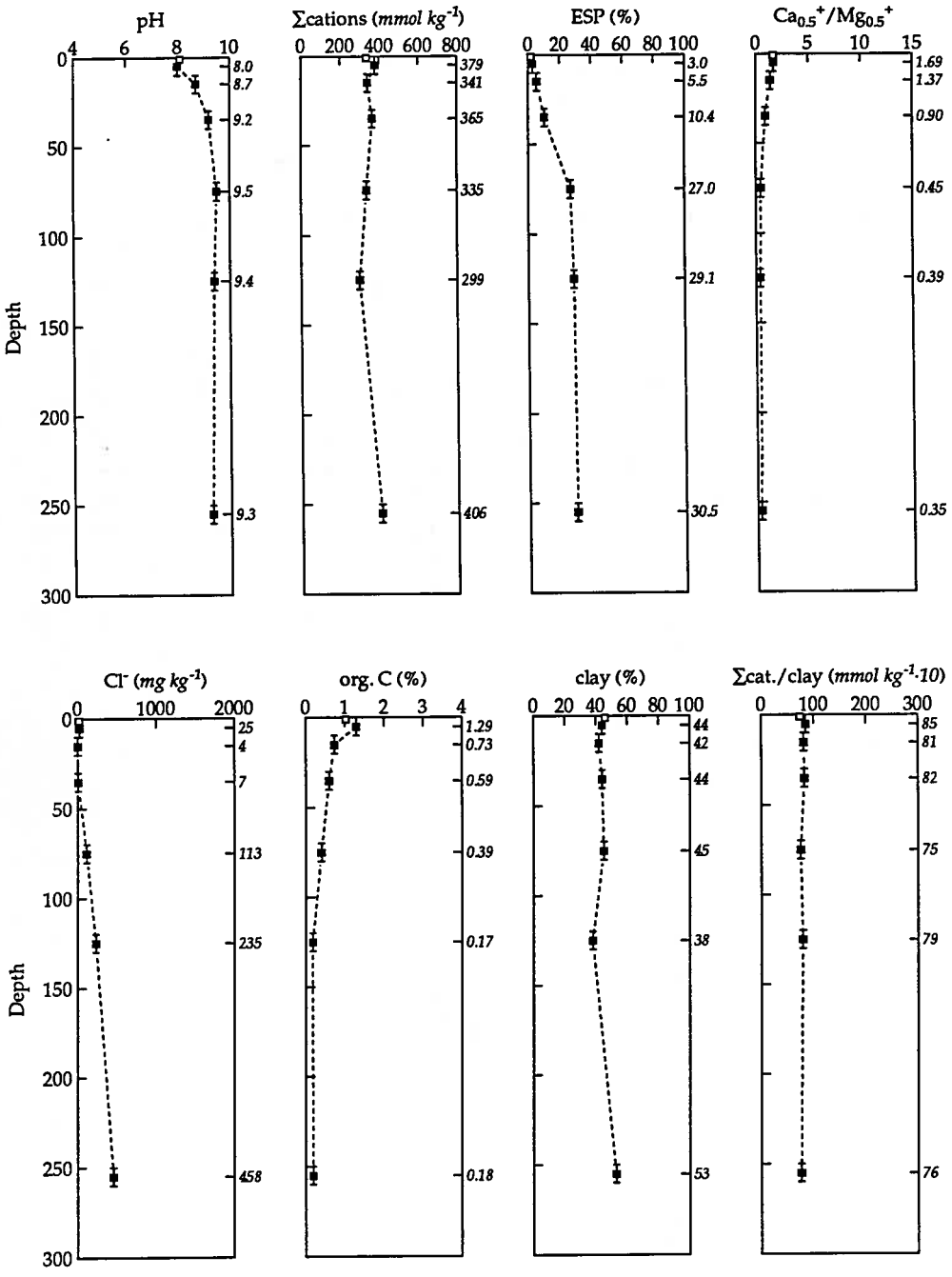
Principal profile form: Ug6.1
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org.C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	8.1	12.5	1.02	0.1	33	20	46
1	A_1p	0–10	8.0	22.0	1.29	0.2	35	18	44
2	$A_1$1	10–20	8.7	10.3	0.73	<0.1	36	20	42
3	$A_1$2	30–40	9.2	24.5	0.59	1.6	30	23	44
4	A_1v	70–80	9.5	52.8	0.39	1.5	30	23	45
5	$B_2$1	120–130	9.4	76.7	0.17	1.7	42	18	38
6	$B_2$2	250–260	9.3	89.5	0.18	1.8	23	21	53

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
17	–	–	193	116	20.4	6.0	<1	335	1.8
25	4.9	12	221	131	15.5	11.4	<1	379	3.0
4	3.6	8	181	132	9.7	18.6	<1	341	5.5
7	2.2	3	152	169	6.4	37.9	<1	365	10.4
113	18.7	9	74	164	6.8	90.5	<1	335	27.0
235	25.5	14	58	147	6.8	87.1	<1	299	29.1
458	<0.1	5	71	203	7.7	123.8	<1	406	30.5

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed150

Site location

Grid reference: 766200mE 6658300mN
Elevation: 226m
Farmer: M.H.(Mark) & R.E.W. Lampe
Farm name: Bobbiwaa
Site described by D. McGarry on 29 May, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: high terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: wheat
Visible cracks: width 1mm

Site comments

No cracks visible. A brown clay, perhaps a little dispersive, as there are some pieces of crust, disrupted by ploughing. 168, 167, 151 and 150 are within the same unit of high terrace, red–brown material. 132 may also fit this group.

Site vegetation

The site was under wheat, and included bare ground.

Profile description

Soil described by W. T. Ward on 21 January, 1986. Drilled depth 292cm

Horizon	(cm)	(Sample; depth)
A_1p	0–10	(1; 0–10) Dark brown (7.5YR3/2, 7.5YR3/2 dry) light clay; strong 2–5mm granular structure; moderately firm; earthy fabric; 2–5% <5mm cracks; few very fine roots; pH 8.0; plough sole, abrupt, smooth change to
A_1	10–85	(2; 10–20) Dark brown (7.5YR3/2) light medium clay; strong 20–50mm subangular blocky structure; moderately strong; earthy fabric; <2% faint fine light brownish grey (10YR6/2) calcareous nodules; <2% <5mm cracks; few very fine roots; pH 8.0;
A_1		(3; 30–40) Dark brown (7.5YR3/2) medium clay; weak 50–100mm angular blocky structure; moderately strong; nodular fracture; earthy fabric; <2% faint fine light brownish grey (10YR6/2) calcareous nodules; <2% <5mm cracks; few very fine roots; pH 8.5;
A_1v		(4; 70–80) Dark brown (7.5YR3/2) heavy clay; weak 50–100mm angular blocky

		structure; very firm; nodular fracture; earthy fabric; <2% faint fine light brownish grey (10YR6/2) calcareous nodules; 2–5% 5–10mm cracks; <2% 0.075–1mm pores; pH 8.5; genetic boundary, diffuse, smooth change to
B_2	85+	(5; 120–130) Dark reddish brown (5YR3/3) medium clay; 2–10% distinct very coarse dark brown (7.5YR3/2) organic stains; weak >100mm prismatic structure; moderately firm; granular fracture; earthy fabric; <2% distinct medium reddish brown (5YR5/3) calcareous nodules; <2% 5–10mm cracks; pH 8.5;
B_2		(6; 250–260) Reddish brown (5YR4/4) medium clay; 2–10% distinct fine yellowish red (5YR4/6) flecks produced by faunal mixing; moderate 20–50mm subangular blocky structure; very weak; earthy fabric; <2% distinct medium reddish grey (5YR5/2) calcareous nodules; 2–5% <5mm cracks; <2% 0.075–1mm pores; pH 8.5;

Parent rock: alluvial sediment, clay, mixed texture, with lime

Comments

An ant nest with seeds at 40cm. 250–260 has 1f2 organic stains. One moderately good slickenside at 230cm. 150.06 is slightly better structured than 150.05. A supplementary sample (?another hole) from 99–127cm includes basalt and trachyte gravel.

Soil classification

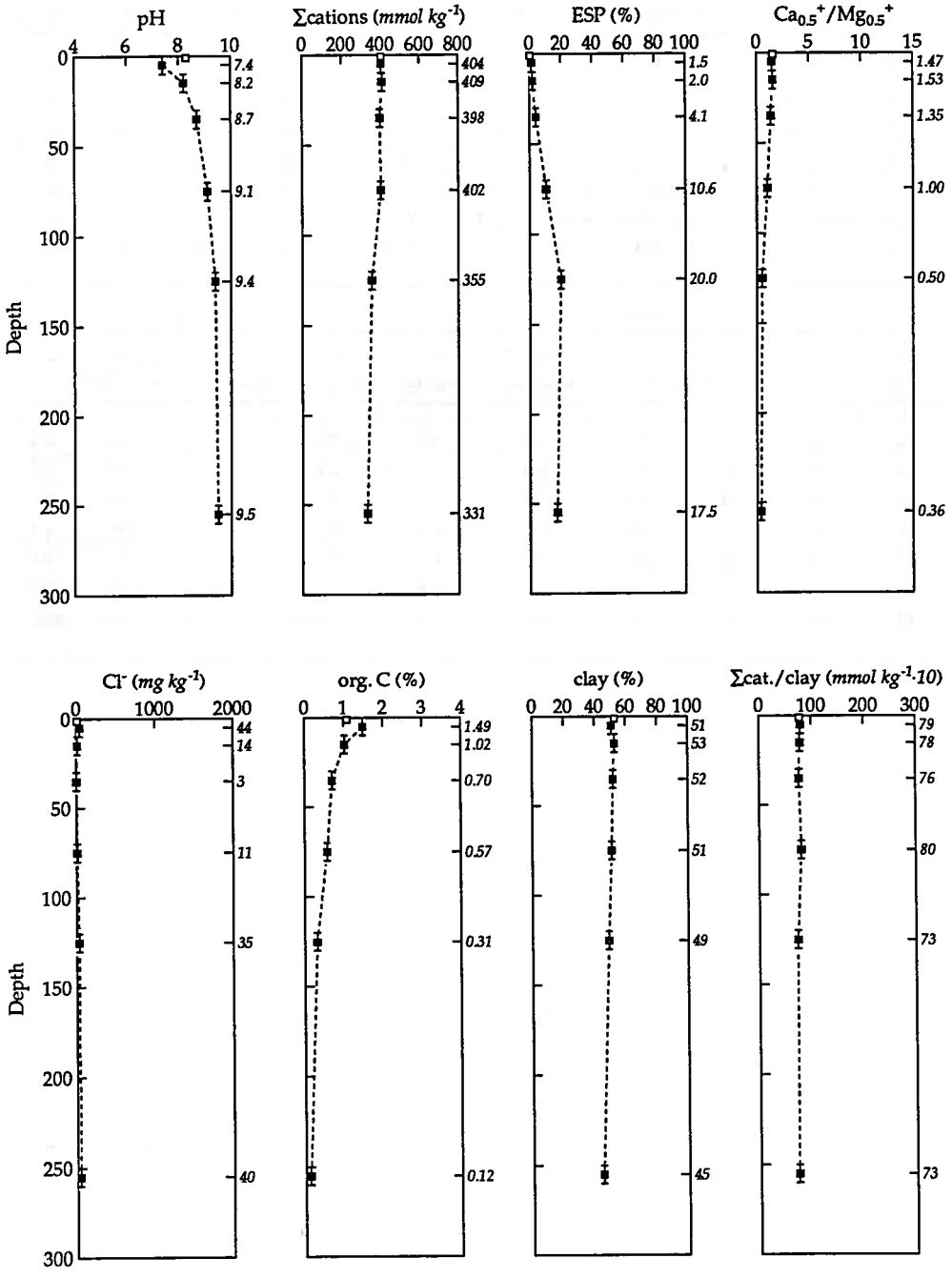
Principal profile form: Ug6.1
Great soil group: Brown clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	8.3	9.9	1.08	<0.1	27	19	53
1	A_1p	0–10	7.4	24.9	1.49	<0.1	27	19	51
2	A_11	10–20	8.2	9.3	1.02	<0.1	26	19	53
3	A_12	30–40	8.7	11.7	0.70	0.4	26	20	52
4	A_1v	70–80	9.1	23.5	0.57	0.9	27	21	51
5	B_21	120–130	9.4	35.3	0.31	1.0	27	23	49
6	B_22	250–260	9.5	36.2	0.12	1.0	35	19	45

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
12	–	–	231	148	24.4	1.6	<1	405	0.4
44	1.6	26	226	154	17.8	6.1	<1	404	1.5
14	2.4	14	236	154	11.2	8.1	<1	409	2.0
3	2.2	9	216	160	4.9	16.1	<1	398	4.1
11	1.8	12	178	178	4.1	42.6	<1	402	10.6
35	8.2	21	93	185	5.8	71.1	<1	355	20.0
40	0.6	11	71	195	7.4	57.9	<1	331	17.5

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed151

Site location

Grid reference: 768900mE 6658200mN
Elevation: 238m
Farmer: M.H.(Mark) & R.E.W. Lampe
Farm name: Bobbiwaa
Site described by D. McGarry on 29 May, 1985
The site is located at a proximate grid point

Site description

Slope: 0°
Topography: flat
Landform: high terrace, eroded
Surface dry when sampled
Coarse self-mulching surface, cultivated
Use: wheat, native pasture
Visible cracks: width 1mm

Site comments

The target site is in a drain, so the hole was drilled 100m south. A brown clay with coarse sand at 2.5m. A cloddy surface, just ploughed.

Site vegetation

The site was under wheat, and included bare ground.

Profile description

Soil described by G. M. Roberts on 21 August, 1985. Drilled depth 275cm

Horizon	(cm)	(Sample; depth)
A_1p	0–8	(1; 0–8) Very dark greyish brown (10YR3/2, 10YR4/3 dry) silty clay; weak 5–10mm subangular blocky structure, breaking to apedal <2mm single–grained structure; moderately strong; earthy and smooth–ped fabric; 5–10% 10–20mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 6.8; plough sole, abrupt, smooth change to
A_1	8–70	(2; 10–20) Very dark greyish brown (10YR3/2) light clay; moderate 50–100mm subangular blocky structure, breaking to weak 5–10mm subangular blocky structure; very strong; earthy fabric; 2–5% 10–20mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.7;
A_1		(3; 30–40) Very dark greyish brown (10YR3/2) medium heavy clay; moderate 50–100mm subangular blocky structure, breaking to weak 5–10mm subangular blocky structure; very strong; earthy and smooth–ped fabric; 2–5% 10–20mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 8.5;

B_2k	70–180	(4; 70–80) Dark brown (7.5YR4/4) medium heavy clay; 2–10% distinct coarse very dark greyish brown (10YR3/2) patches of soil, filling cracks; moderate 50–100mm subangular blocky structure, breaking to moderate 5–10mm subangular blocky structure; moderately strong; weak slickensides, earthy and smooth-ped fabric; 2–10% distinct coarse pink (7.5YR7/4) calcareous nodules; 2–5% 10–20mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 9.0;
B_2k		(5; 120–130) Reddish brown (5YR4/3) light medium clay; 10–20% distinct coarse dark brown (7.5YR3/2) conspicuous bleach; moderate 20–50mm angular blocky structure, breaking to moderate 5–10mm angular blocky structure; very firm; smooth-ped and polished ped fabric; 2–10% distinct medium pink (7.5YR7/4) calcareous nodules; 2–5% 5–10mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 9.0;
B_21	180+	(6; 250–260) Yellowish red (5YR5/6) light medium clay; 10–20% distinct coarse dark brown (7.5YR3/2) patches of soil, filling cracks; weak 50–100mm subangular blocky structure, breaking to moderate 5–10mm angular blocky structure; moderately firm; smooth-ped and earthy fabric; <2% 5–10mm cracks; 5–10% 0.075–1mm pores; few very fine roots; <2% 20–60mm rounded tabular quartz fragments; pH 9.0;

Parent rock: alluvial sediment, mixed texture, with lime

Comments

This site receives regular additional deposits from Bobbiwaa Creek. This possibly explains the light surface textures. Quantities of sand on ped faces – ?recent alluvium down cracks or prior soil layering.

Soil classification

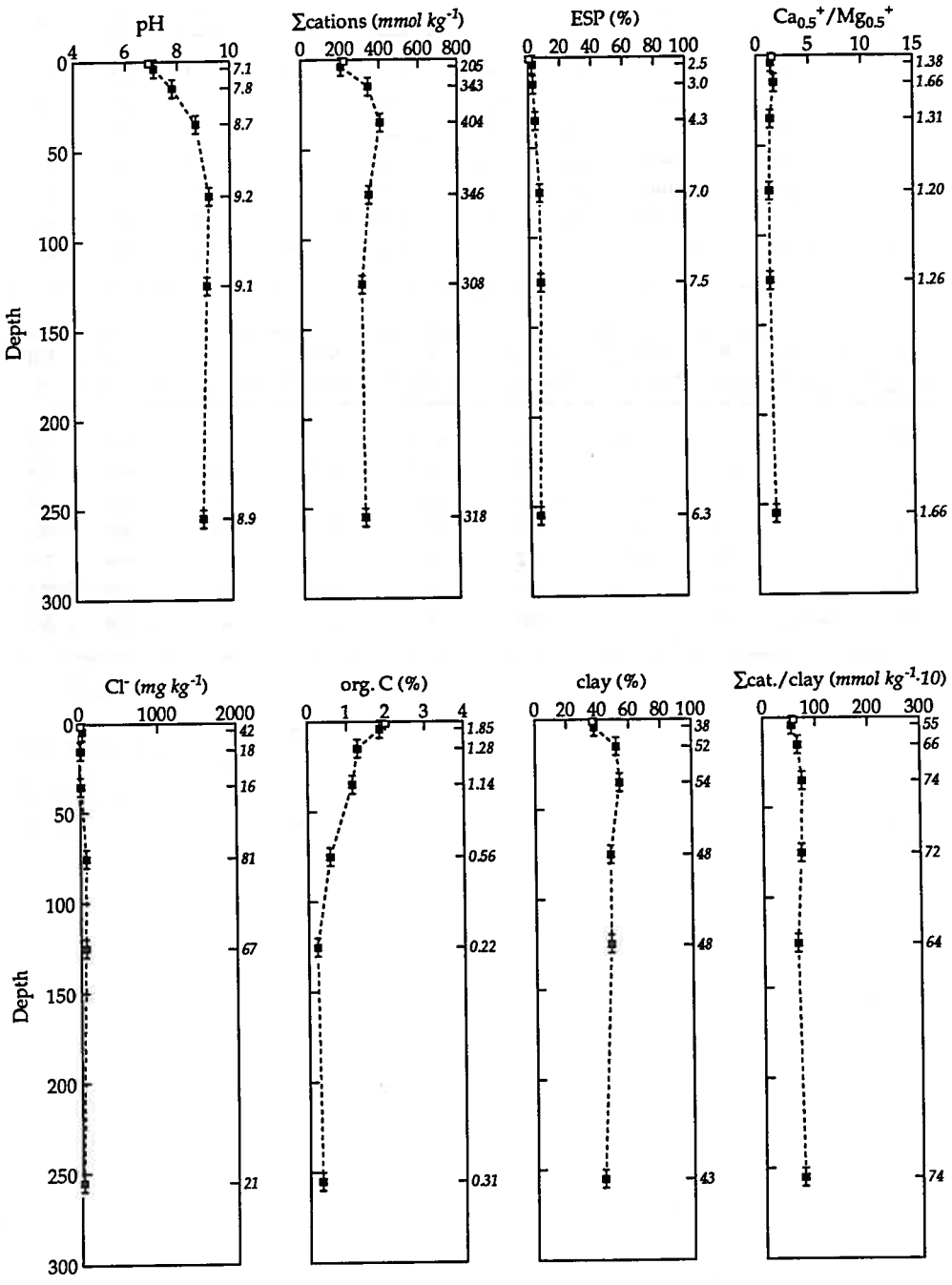
Principal profile form: Ug5.15
Great soil group: Brown clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	6.9	8.4	2.00	<0.1	38	22	37
1	A_1p	0–8	7.1	12.1	1.85	<0.1	39	21	38
2	A_11	10–20	7.8	6.4	1.28	<0.1	27	19	52
3	A_12	30–40	8.7	7.3	1.14	0.1	23	20	54
4	B_2k1	70–80	9.2	21.2	0.56	2.4	26	22	48
5	B_2k2	120–130	9.1	18.6	0.22	0.1	28	23	48
6	B_2l	250–260	8.9	7.7	0.31	2.5	32	22	43

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
17	–	–	119	79	21.5	1.1	<1	220	0.5
42	13.4	101	106	77	18.1	5.1	<1	205	2.5
18	2.1	39	200	121	12.6	10.4	<1	343	3.0
16	0.2	24	212	162	12.1	17.3	<1	404	4.3
81	<0.1	42	171	142	9.1	24.1	<1	346	7.0
67	<0.1	35	152	121	12.1	23.2	<1	308	7.5
21	<0.1	41	180	109	9.2	20.2	<1	318	6.3

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed152

Site location

Grid reference: 771700mE 6658100mN
Farmer: A.R.(Alex) & A.E.Campbell
Site described by D. McGarry on 29 September, 1985
The site is located at a grid point

Elevation: 245m
Farm name: Avondale

Site description

Slope: 0°
Landform: levee
Surface dry when sampled
Hard-setting surface, trampled
Use: native pasture, native forest
Visible cracks: width 2mm

Topography: flat

Site comments

A non–cracking soil; no visible cracks. Surface is moderately hard setting. On edge of levee bank.

Site vegetation

The following species were noted:

Eucalyptus camaldulensis, ?Petalostigma pubescens, ?Stipa, Bassia quinquecuspis.

Profile description

Soil described by W. T. Ward on 21 January, 1986. Drilled depth 272cm

Horizon	(cm)	(Sample; depth)
A_1	0–120	(1; 0–10) Dark brown (7.5YR3/2, 7.5YR3/2 dry) silty clay loam; strong 10–20mm subangular blocky structure; moderately strong; earthy fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; few fine roots; pH 7.0;
A_1		(2; 10–20) Dark brown (7.5YR3/2) light medium clay; strong 20–50mm subangular blocky structure, with moderate 2–5mm cast granular structure; moderately strong; earthy fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.5;
A_1		(3; 30–40) Dark brown (7.5YR3/2) medium clay; strong 20–50mm prismatic structure, with moderate <2mm cast granular structure; moderately strong; earthy fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.0;

A_1		(4; 70–80) Dark brown (7.5YR3/2) medium clay; strong 20–50mm prismatic structure, with moderate <2mm cast granular structure; moderately strong; earthy fabric; <2% <5mm cracks; <2% 2–5mm pores; few very fine roots; pH 8.5; genetic boundary, diffuse, smooth change to
C	120–184	(5; 120–130) Dark brown (7.5YR3/4) sandy medium clay; 20–50% distinct coarse dark brown (7.5YR3/2) organic stains; strong 20–50mm prismatic structure, with moderate <2mm cast granular structure; moderately strong; earthy fabric; <2% distinct fine brown (10YR5/3) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.5;
C		(6; 170–180) Dark brown (7.5YR4/4) loamy sand; 10–20% distinct medium dark brown (7.5YR3/2) organic stains; weak 50–100mm prismatic structure; moderately weak; nodular fracture; sandy fabric; <2% <5mm cracks; few very fine roots; pH 8.5; stratigraphic boundary, sharp, smooth change to
$2B_2$	184+	(7; 250–260) Dark reddish brown (5YR3/4) medium clay; <2% faint medium dark brown (7.5YR3/2) organic stains; strong 20–50mm prismatic structure, with moderate 2–5mm cast granular structure; moderately strong; smooth–ped fabric; 2–10% distinct coarse pink (7.5YR7/4) calcareous soft segregations; <2% <5mm cracks; pH 8.8;

Parent rock: alluvial sediment, sand

Comments

The carbonate nodules are very tiny. A buried AC horizon (7.5YR3/2) occurs at 184cm. Photo did not include 187–272, the core then being overlooked. Notice extra sample at 170–180.

Soil classification

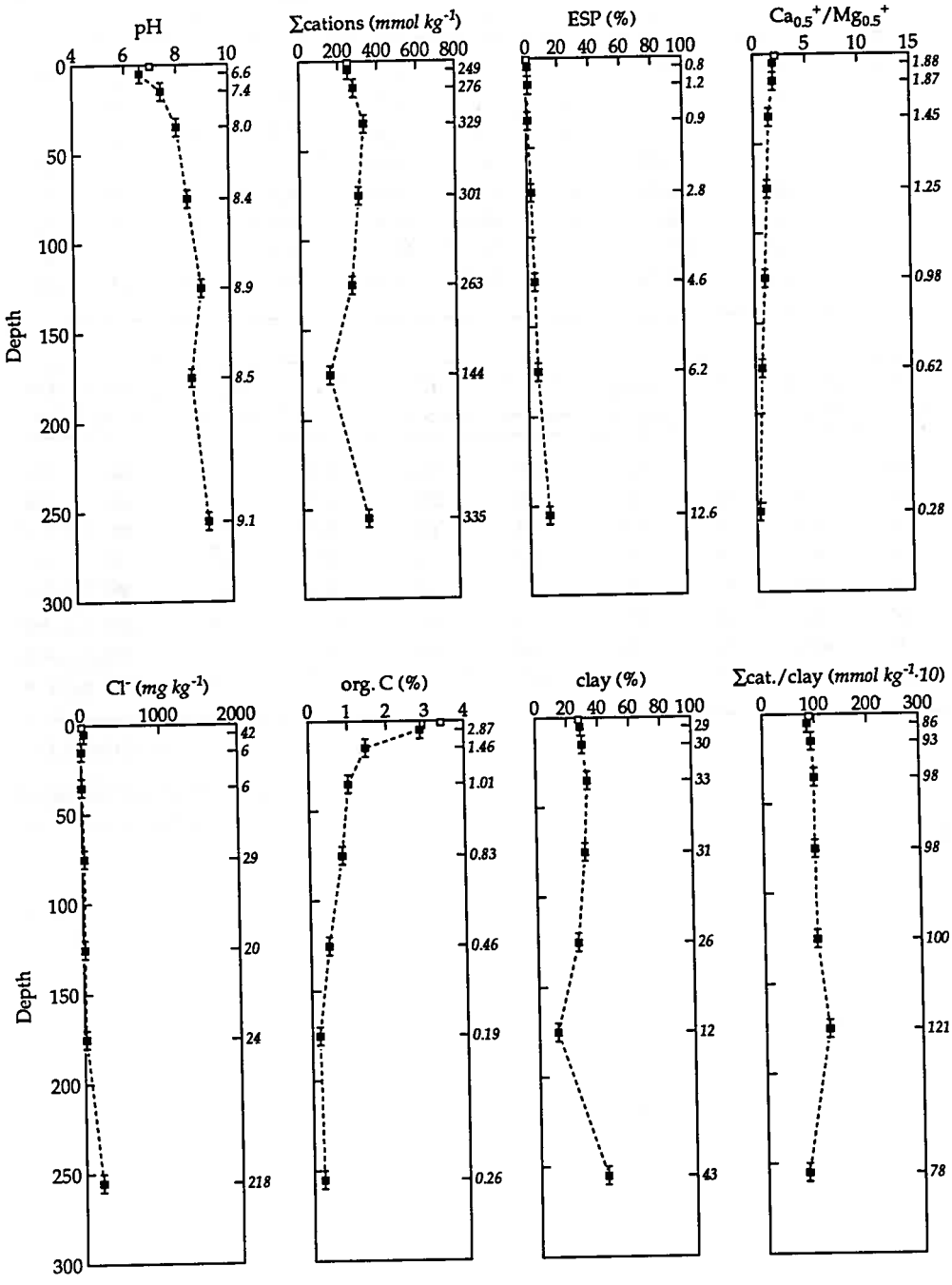
Principal profile form: Ug6.1
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	7.0	16.7	3.41	<0.1	47	20	28
1	$A_1$1	0–10	6.6	18.8	2.87	<0.1	46	21	29
2	$A_1$2	10–20	7.4	6.2	1.46	<0.1	46	22	30
3	$A_1$3	30–40	8.0	5.5	1.01	<0.1	45	20	33
4	$A_1$4	70–80	8.4	7.8	0.83	<0.1	50	18	31
5	C	120–130	8.9	<0.1	0.46	0.7	58	14	26
6	C	170–180	8.5	76.0	0.19	<0.1	80	8	12
7	$2B_2$	250–260	9.1	39.4	0.26	10.1	28	18	43

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
14	–	–	142	68	38.6	0.8	<1	248	0.3
42	36.4	64	146	78	23.9	1.9	<1	249	0.8
6	10.6	22	173	93	6.8	3.2	<1	276	1.2
6	6.5	18	190	131	6.0	2.8	<1	329	0.9
29	0.6	34	160	128	5.3	8.5	<1	301	2.8
20	<0.1	48	122	124	4.6	12.1	<1	263	4.6
24	<0.1	26	50	82	3.1	8.9	<1	144	6.2
218	0.8	12	63	223	7.4	42.2	<1	335	12.6

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed153

Site location

Grid reference: 774400mE 6658000mN
Elevation: 258m
Farmer: Peter Wilson
Farm name: Mayfield
Site described by D. McGarry on 9 September, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Weak surface crust, cultivated
Use: lucerne, wheat
Visible cracks: width 1mm

Site comments

There are many, fine (0.2–1cm) surface cracks, none penetrate >2cm. Surface has weak crust, not moderate, quite dispersive. Q, extensive terrace, gravel in sandy material.

Site vegetation

The site was under lucerne, and included bare ground.

Profile description

Soil described by W. T. Ward on 29 January, 1986. Drilled depth 263cm

Horizon	(cm)	(Sample; depth)
A_1	0–50	(1; 0–10) Dark brown (7.5YR3/2, 7.5YR3/2 dry) light medium clay; moderate 5–10mm subangular blocky structure, breaking to weak 2–5mm granular structure; moderately firm; smooth fracture; earthy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.0;
A_1		(2; 10–20) Dark brown (7.5YR3/2) medium clay; weak 5–10mm subangular blocky structure; moderately firm; nodular fracture; earthy fabric; few very fine roots; pH 7.5;
A_1		(3; 30–40) Dark brown (7.5YR3/2) medium clay; weak 10–20mm subangular blocky structure; moderately firm; smooth fracture; earthy fabric; <2% <5mm cracks; few very fine roots; <2% 2–6mm subangular quartz fragments; pH 8.5; genetic boundary, gradual, smooth change to
B_2	50–160	(4; 70–80) Dark reddish brown (5YR3/3) medium heavy clay; <2% faint medium

		dark reddish brown (5YR3/2) organic stains; weak 20–50mm angular blocky structure, with moderate 2–5mm cast granular structure; moderately firm; nodular fracture; earthy and smooth–ped fabric; <2% distinct fine very pale brown (10YR8/4) calcareous nodules; <2% <5mm cracks; few very fine roots; <2% 6–20mm subangular sandstone fragments; pH 8.5;
B_2		(5; 120–130) Dark reddish brown (5YR3/3) medium heavy clay; <2% faint medium dark reddish brown (5YR3/2) organic stains; moderate 20–50mm prismatic structure, with moderate 2–5mm cast granular structure; moderately strong; earthy and smooth–ped fabric; <2% distinct fine light reddish brown (5YR6/4) calcareous soft segregations; <2% <5mm cracks; <2% 0.075–1mm pores; <2% 2–6mm subangular basalt fragments; pH 8.7; genetic boundary, diffuse, smooth change to
C_1	160+	(6; 250–260) Dark reddish brown (5YR3/4) medium heavy clay; moderate 20–50mm prismatic structure; moderately strong; smooth–ped fabric; <2% <5mm cracks; <2% 6–20mm rounded sandstone fragments; pH 8.5;

Parent rock: alluvial sediment, mixed texture, with lime

Comments

Clayey sand with gravel from 200–230, very little carbonate in 250–260. 250–260 is a weathered band in parent material, stoneline above. This is a coarse textured (?) brown clay/"rbe" intermediate.

Soil classification

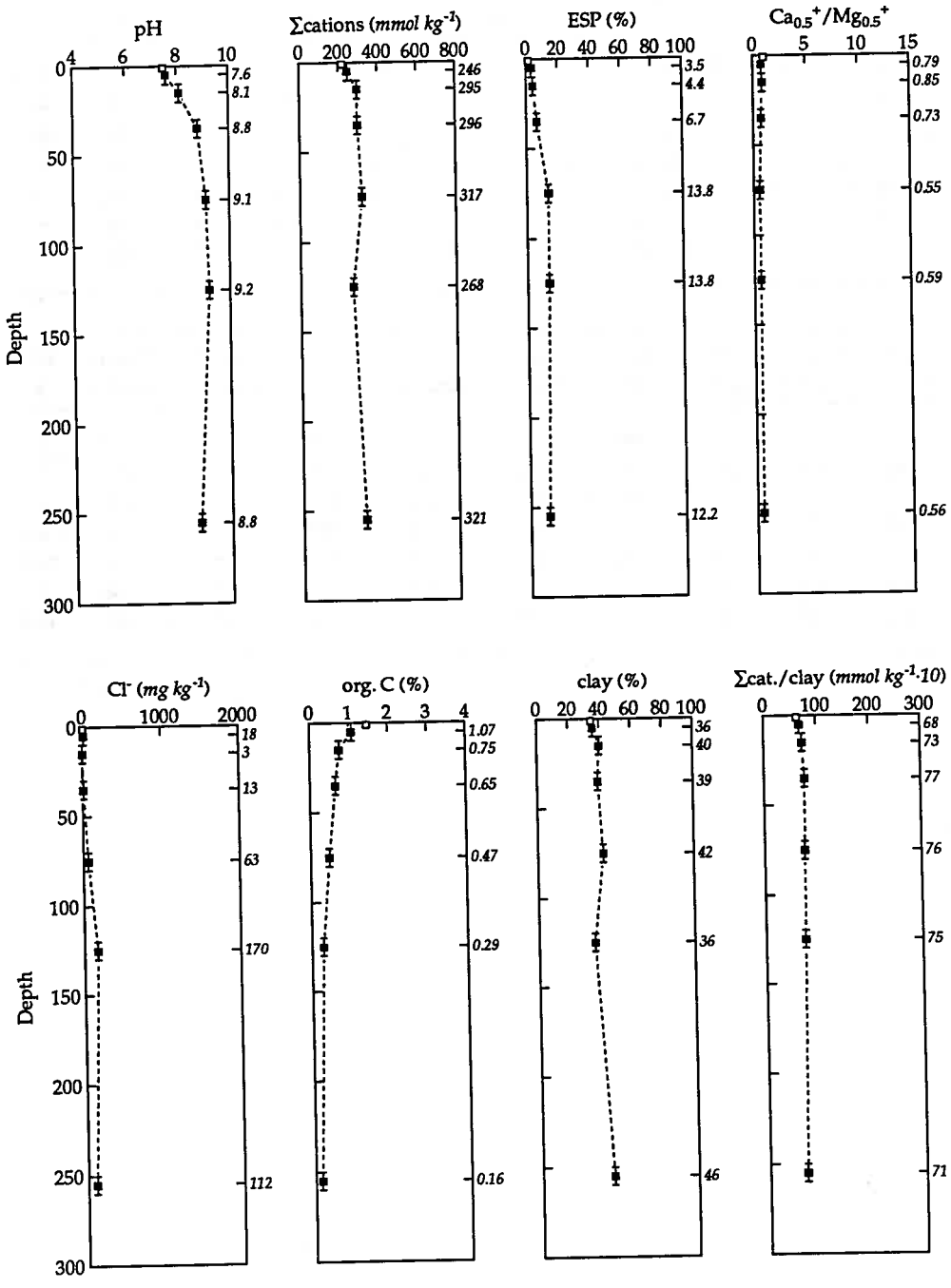
Principal profile form: Ug6.1
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	7.5	4.9	1.46	<0.1	46	17	35
1	$A_1$1	0–10	7.6	10.9	1.07	<0.1	47	15	36
2	$A_1$2	10–20	8.1	8.3	0.75	<0.1	46	13	40
3	$A_1$3	30–40	8.8	18.3	0.65	0.4	47	12	39
4	B_2	70–80	9.1	34.4	0.47	1.0	43	14	42
5	B_2	120–130	9.2	35.0	0.29	1.5	49	13	36
6	C_1	250–260	8.8	17.5	0.16	<0.1	34	20	46

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
7	–	–	99	98	18.5	3.8	<1	219	1.7
18	6.9	24	98	124	14.7	8.6	<1	246	3.5
3	0.9	9	124	146	12.4	12.9	<1	295	4.4
13	0.1	7	114	156	7.1	20.0	<1	296	6.7
63	<0.1	34	94	171	7.3	43.6	<1	317	13.8
170	0.5	36	82	140	8.6	37.1	<1	268	13.8
112	1.6	29	97	175	9.8	39.1	<1	321	12.2

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed154

Site location

Grid reference: 777200mE 6657900mN
Elevation: 265m
Farmer: I.O.(Ian) Falkiner
Farm name: Murrumbilla
Site described by D. McGarry on 9 July, 1985
The site is located at a grid point

Site description

Slope: 4° Slope direction: 180°
Topography: gently undulating
Landform: levee
Surface dry when sampled
Coarse self-mulching surface, virgin state
Use: protected waterway, wheat
Visible cracks: width 1mm

Site comments

Surface measures very difficult as much dense vegetation. Core continued to 305 in sand. Photos of nearby stream bank show a buried soil like the MVpH plot unit.

Site vegetation

The following species were noted:

Eucalyptus camaldulensis, Stipa ?scabra, Stipa verticellata, ?Stipa setacea, Hordeum leporinum, Brassica tournefortii, Capsella bursa-pastoris, Verbascum virgatum, Silybum marianum.

Profile description

Soil described by M. E. Heape on 21 February, 1986. Drilled depth 275cm

Horizon	(cm)	(Sample; depth)
AC	0–45	(1; 0–10) Dark brown (10YR3/3, 10YR3/4 dry) silty clay loam; moderate 50–100mm subangular blocky structure; moderately firm; earthy fabric; <2% <5mm cracks; <2% 2–5mm pores; many coarse roots; pH 7.0;
AC		(2; 10–20) Dark brown (10YR3/3) clay loam; <2% distinct fine very dark grey (N3/) organic stains; moderate 50–100mm prismatic structure, with moderate 2–5mm cast granular structure; moderately firm; earthy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.5;
AC		(3; 30–40) Dark brown (7.5YR3/2) clay loam; moderate 50–100mm prismatic structure, with moderate 2–5mm cast granular structure; moderately weak; earthy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.0;

		genetic boundary, gradual, smooth change to
C	45–110	(4; 70–80) Brown (10YR4/3) clay loam; weak 50–100mm prismatic structure; moderately weak; smooth fracture; sandy fabric; <2% <5mm cracks; <2% >5mm pores; few very fine roots; pH 8.0; stratigraphic boundary, clear, smooth change to
$2A_1$	110–210	(5; 120–130) Dark brown (7.5YR3/2) light medium clay; 10–20% distinct coarse dark yellowish brown (10YR3/4) patches of sediment, filling cracks; strong 50–100mm subangular blocky structure, with moderate 2–5mm cast granular structure; very firm; earthy and sandy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.5; genetic boundary, diffuse, smooth change to
$2B_2$	210+	(6; 250–260) Dark reddish grey (5YR4/2) medium clay; 10–20% distinct medium dark brown (7.5YR3/2) organic stains; <2% prominent coarse pink (7.5YR8/4) cutans; weak 50–100mm angular blocky structure apedal massive; very firm; nodular fracture; smooth–ped fabric; <2% coarse calcareous nodules; <2% 0.075–1mm pores; pH 8.5;

Parent rock: alluvial sediment, mixed texture, non-calcareous, from sandstone, with lime

Comments

Stratigraphic break to cracking clay 7.5YR3/2 at 110cm with inwashed sand and polished peds between 180–210cm. The buried soil looks like MVpH.

Soil classification

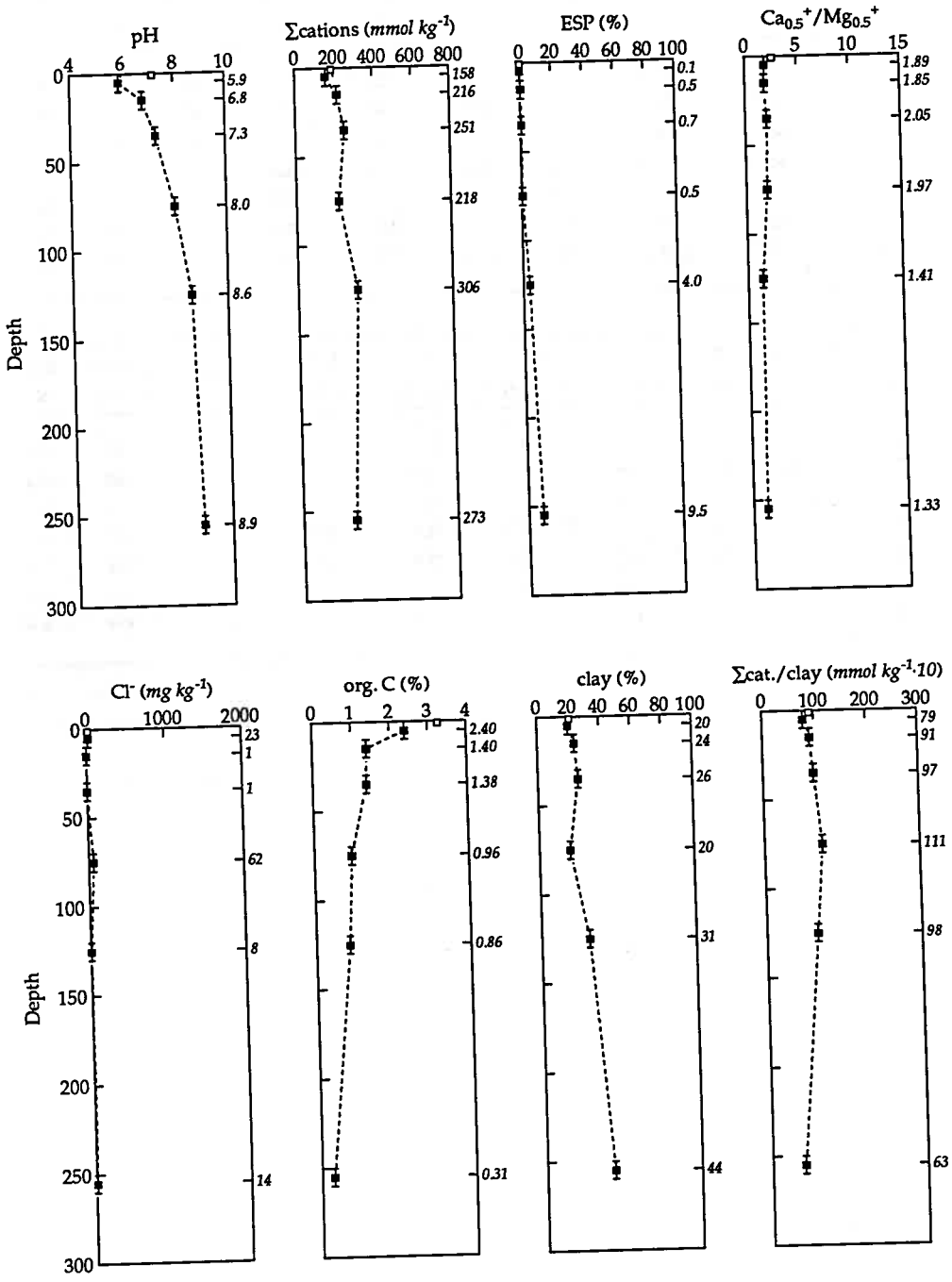
Principal profile form: Um6.22
Great soil group: Alluvial soils
Soil taxonomy unit: Ustifluvents

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	AC1	0–2	7.2	11.0	3.26	<0.1	60	13	21
1	AC1	0–10	5.9	43.0	2.40	<0.1	63	13	20
2	AC2	10–20	6.8	10.0	1.40	<0.1	59	15	24
3	AC3	30–40	7.3	5.1	1.38	<0.1	57	15	26
4	C	70–80	8.0	10.8	0.96	0.1	68	11	20
5	$2A_1$	120–130	8.6	7.9	0.86	0.1	53	15	31
6	$2B_2$	250–260	8.9	18.2	0.31	0.6	36	19	44

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
20	–	–	119	46	25.2	<0.1	<1	189	<0.1
23	131.6	101	88	47	22.8	<0.1	<1	158	<0.1
1	30.1	32	133	72	10.2	1.0	<1	216	0.5
<1	10.2	25	164	80	4.5	1.7	<1	251	0.7
62	2.8	29	142	72	2.9	1.1	<1	218	0.5
8	1.9	27	169	120	4.6	12.3	<1	306	4.0
14	4.1	29	137	104	6.5	26.0	<1	273	9.5

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed155

Site location

Grid reference: 779900mE 6657900mN
Elevation: 280m
Farmer: J.Amos/R.Simpson
Farm name: Woodville
Site described by W. T. Ward on 17 July, 1985
The site is located at a grid point

Site description

Slope: 1° Slope direction: 180°
Topography: gently undulating
Landform: floodout
Surface moist when sampled
Soft surface, virgin state
Use: protected waterway, wheat

Site comments

Rex Simpson, manager. Slope variously S and W. ~40cm layered sand on truncated prior sediment. Flooding stream breaks through to fields. A good re cent alluvial creek section here is badly lit at 3:15pm.

Site vegetation

The following species were noted:

Eucalyptus populnea, Stipa verticellata, Silybum marianum.

Profile description

Soil described by W. T. Ward on 28 October, 1985. Drilled depth 265cm

Horizon	(cm)	(Sample; depth)
A_1	0–7	(1; 0–7) Dark brown (7.5YR3/2, 10YR3/2 dry) silty loam; moderate 2–5mm granular structure; moderately weak; earthy fabric; 2–5% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 8.2; genetic boundary, abrupt, wavy change to
A_1	7–27	(2; 10–20) Dark brown (7.5YR4/4) loam; 2–10% faint fine dark brown (7.5YR3/2) organic stains; weak 20–50mm subangular blocky structure; moderately weak; smooth fracture; earthy and smooth-ped fabric; <2% <5mm cracks; <2% 1–2mm pores; common fine roots; pH 8.5; stratigraphic boundary, abrupt, smooth change to
$2A_1$	27–67	(3; 30–40) Dark brown (7.5YR3/2) silty clay loam; 2–10% distinct medium brown (7.5YR5/4) flecks produced by faunal mixing; moderate 5–10mm subangular

		blocky structure; moderately firm; earthy and smooth-ped fabric; <2% <5mm cracks; <2% 1–2mm pores; common fine roots; pH 8.5; genetic boundary, clear, smooth change to
$2B_2$	67–115	(4; 70–80) Dark brown (10YR3/3) light clay; 10–20% distinct medium brown (7.5YR5/4) flecks produced by faunal mixing; weak 20–50mm subangular blocky structure, with moderate 5–10mm cast granular structure; moderately weak; nodular fracture; earthy fabric; <2% distinct fine pinkish grey (7.5YR7/2) calcareous soft segregations; 2–5% <5mm cracks; 2–5% 1–2mm pores; common very fine roots; pH 8.8; stratigraphic boundary, abrupt, smooth change to
2C	115–148	(5; 120–130) Dark brown (7.5YR3/2) silty clay loam; 2–10% prominent fine pale brown (10YR6/3) inherited stains; apedal massive; very firm; smooth fracture; earthy fabric; <2% <5mm cracks; 2–5% 2–5mm pores; few very fine roots; pH 9.0; stratigraphic boundary, abrupt, smooth change to
$3B_2$	148+	(6; 250–260) Dark brown (7.5YR3/2) silty clay loam; 2–10% distinct fine dark brown (7.5YR4/4) patches of sediment, filling cracks; weak 20–50mm prismatic structure, breaking to moderate 10–20mm subangular blocky structure; moderately strong; nodular fracture; earthy and smooth-ped fabric; 2–10% prominent coarse very pale brown (10YR7/3) calcareous nodules; 2–5% <5mm cracks; pH 9.0;

Parent rock: alluvial sediment, mixed texture, with lime

Comments

Evident depositional fabric at 25–27cm. The boundary at 27cm is confused by worm mixing. Inwashed sand 75 to 90cm. Pores in 155.05 are worm channels. At 117–122 there is a horizontal band of sand to coarse sand to very fine gravel. Few quartz gravels at 165cm and 220–230cm. The buried soils especially no. 3 are well developed and may represent significant depositional events.

Soil classification

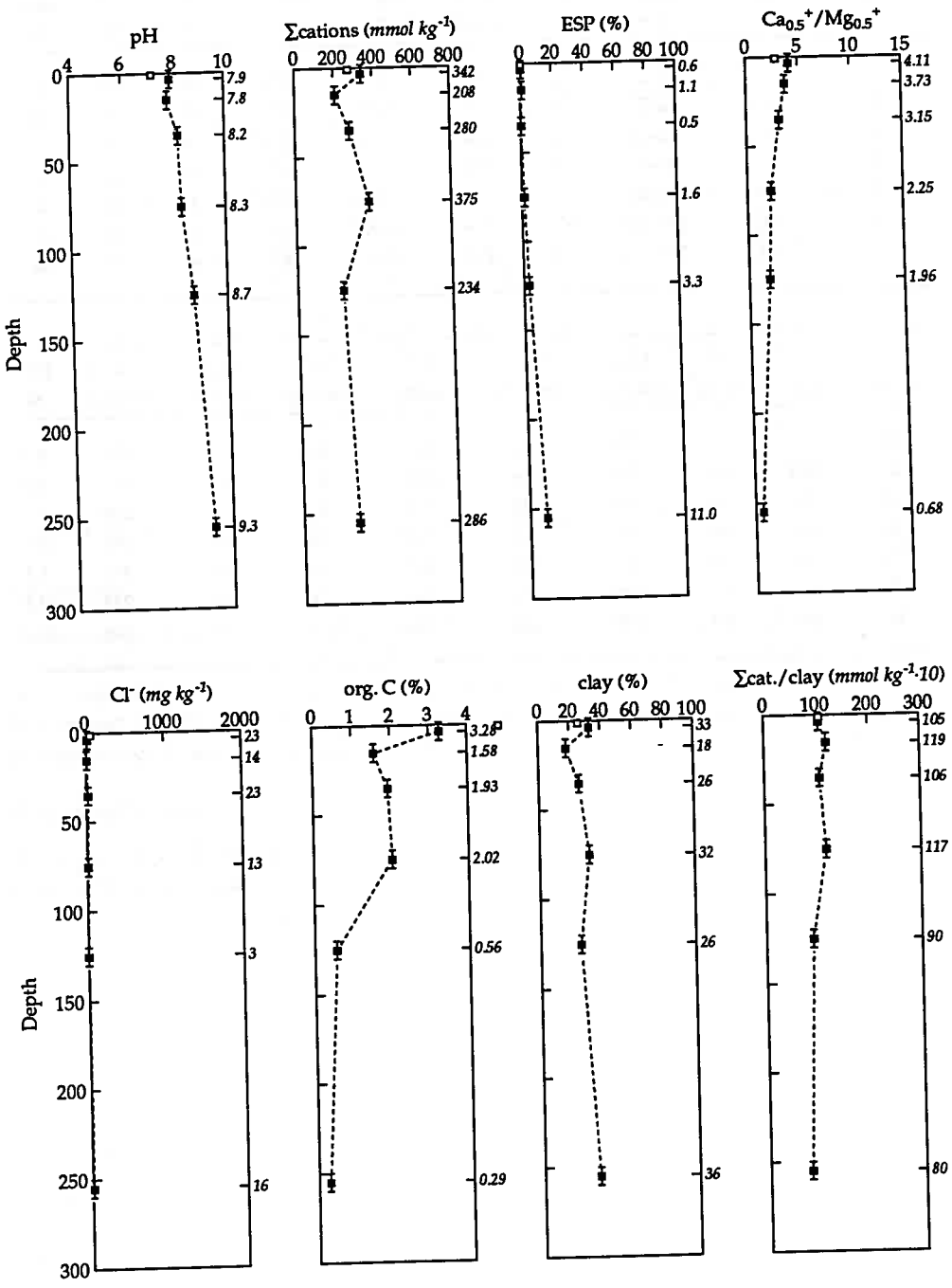
Principal profile form: Db3.13
Great soil group: Alluvial soils

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	7.2	25.3	4.82	<0.1	48	18	26
1	$A_1$1	0–7	7.9	15.2	3.28	<0.1	43	19	33
2	$A_1$2	10–20	7.8	8.6	1.58	<0.1	69	11	18
3	$2A_1$	30–40	8.2	11.9	1.93	0.2	48	22	26
4	$2B_2$	70–80	8.3	15.2	2.02	0.5	34	30	32
5	2C	120–130	8.7	11.6	0.56	1.0	58	15	26
6	$3B_2$	250–260	9.3	29.3	0.29	4.5	44	15	36

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
64	–	–	178	62	34.3	1.0	<1	275	0.4
23	23.9	68	261	64	15.3	2.1	<1	342	0.6
14	0.6	38	160	43	3.2	2.2	<1	208	1.1
23	6.1	48	209	66	3.0	1.4	<1	280	0.5
13	2.6	45	253	113	3.7	5.9	<1	375	1.6
3	0.7	41	148	75	3.6	7.6	<1	234	3.3
16	26.5	13	102	149	3.6	31.5	<1	286	11.0

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed156

Site location

Grid reference: 782700mE 6657700mN
Elevation: 303m
Farmer: F.J.(Fred) Whiteman
Farm name: Moplain
Site described by W. T. Ward on 16 July, 1985
The site is located at a grid point

Site description

Slope: 0° Slope direction: 270°
Topography: flat
Landform: middle terrace
Surface moist when sampled
Fine self-mulching surface, trampled
Use: native pasture
Visible cracks: width 1mm

Site comments

Deep dark top on brown B. ? Q. Lightly trampled. Few 20mm cracks closed by soil washed in. A rolypoly. Less than 2% stone as surface floaters. Heavy basaltic gravel slows hole.

Site vegetation

The site included bare ground.

The following species were noted:

Heterodendrum oleifolium, Stipa verticellata, Bassia quinquecuspis ssp. semiglabra.

Profile description

Soil described by W. T. Ward on 27 June, 1986. Drilled depth 270cm

Horizon	(cm)	(Sample; depth)
A_1	0–90	(1; 0–10) Very dark grey (10YR3/1, 10YR4/1 dry) medium clay; weak 20–50mm angular blocky structure, with moderate 2–5mm granular structure; moderately weak; granular fracture; smooth-ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.7;
A_1		(2; 10–20) Very dark grey (10YR3/1) medium clay; <2% distinct fine very dark greyish brown (10YR3/2) patches of sediment, filling cracks; moderate 20–50mm angular blocky structure; moderately firm; smooth-ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.5;

A_1		(3; 30–40) Very dark grey (10YR3/1) medium clay; <2% distinct fine very dark greyish brown (10YR3/2) patches of sediment, filling cracks; moderate 20–50mm angular blocky structure; moderately firm; smooth-ped and polished ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; <2% 6–20mm angular rock fragments; pH 8.8;
A_1		(4; 70–80) Dark grey (10YR4/1) medium heavy clay; weak 50–100mm lenticular structure, breaking to moderate 20–50mm angular blocky structure; very firm; weak slickensides, nodular fracture; smooth-ped and polished ped fabric; <2% prominent fine white (10YR8/2) calcareous soft segregations; <2% fine calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 9.0; genetic boundary, diffuse, smooth change to
B_2	90–180	(5; 120–130) Brown (7.5YR5/4) light medium clay; 2–10% distinct medium dark greyish brown (10YR4/2) organic stains; moderate 50–100mm wedge structure, breaking to weak 50–100mm prismatic structure; moderately firm; moderate slickensides, nodular fracture; polished ped and smooth-ped fabric; <2% faint fine light grey (10YR7/2) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0; stratigraphic boundary, gradual, smooth change to
D	180+	(6; 250–260) Reddish brown (5YR4/4) silty clay; apedal massive; smooth-ped fabric; 2–10% prominent medium white (10YR8/2) calcareous nodules; >90% 20–60mm subrounded rock fragments; pH 9.0;

Parent rock: alluvial sediment, mixed texture, with lime, gravel

Comments

Lime appears at 40cm. 1 angular fragment of weathered basalt at 42cm, also piece of quartz. Cf MVpH. 120–130 effervesces in fine earth. Gravels occur at 180, various quartz, basalt, occur with carbonate nodules in situ. 250–260 is in basal gravel and waterworn stone, mostly basalt. Field texture of sample 6 estimated from lab results.

Soil classification

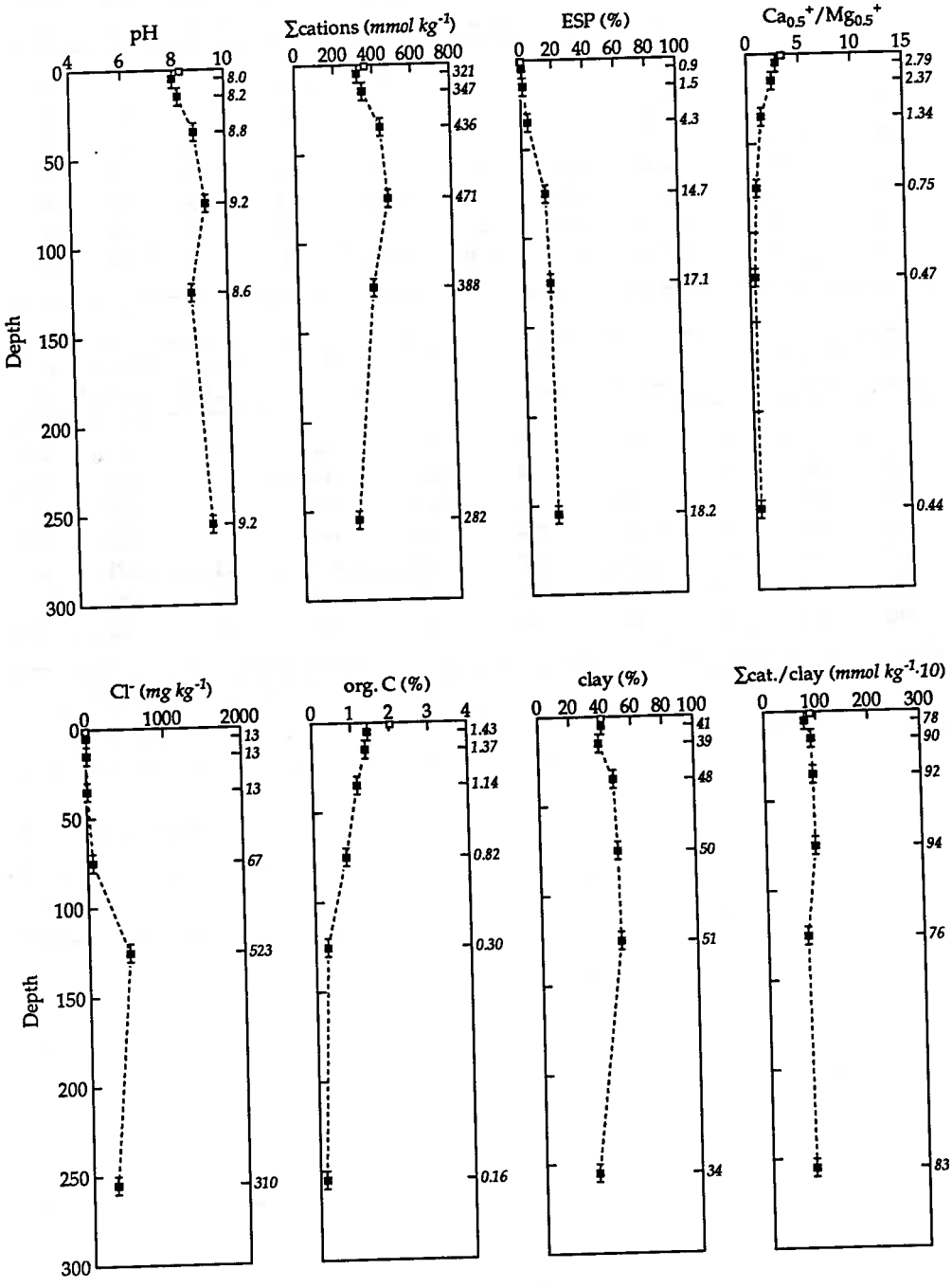
Principal profile form: Ug5.16
Great soil group: Grey clays
Soil taxonomy unit: Pellusterts

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	8.3	14.7	2.02	0.5	41	15	41
1	$A_1$1	0–10	8.0	16.2	1.43	0.1	43	14	41
2	$A_1$2	10–20	8.2	10.5	1.37	<0.1	44	15	39
3	$A_1$3	30–40	8.8	8.7	1.14	<0.1	35	15	48
4	$A_1$4	70–80	9.2	35.2	0.82	1.8	28	19	50
5	B_2	120–130	8.6	100.0	0.30	2.7	33	12	51
6	D	250–260	9.2	45.8	0.16	14.9	35	16	34

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^{+}$ *mmol kg^{-1}*	$Mg_{0.5}^{+}$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^{+}$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
6	–	–	259	77	24.9	1.2	<1	362	0.3
13	49.1	6	220	79	19.5	3.0	<1	321	0.9
13	26.4	<1	233	99	10.1	5.2	<1	347	1.5
13	11.6	<1	235	176	5.9	18.6	<1	436	4.3
67	2.4	<1	170	227	5.3	69.3	<1	471	14.7
523	1.0	<1	101	216	4.3	66.4	<1	388	17.1
310	5.4	<1	69	158	3.1	51.4	<1	282	18.2

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed157

Site location

Grid reference: 785400mE 6657650mN
Elevation: 348m
Farmer: F.J.(Fred) Whiteman
Farm name: Moplain
Site described by W. T. Ward on 16 September, 1985
The site is located at a grid point

Site description

Slope: 1° Slope direction: 300°
Topography: gently sloping
Landform: mid-slope
Surface moist when sampled
Fine self-mulching surface, trampled
Use: native pasture

Site comments

Lightly trampled to otherwise virgin state, partly cleared. Few large belah, and cypress. Chocolate soil on basalt rising to a crest which stands a little higher than this slope, which could therefore be a pediment. The higher ground is shallower with rock in place. Core stopped in rock.

Site vegetation

The following species were noted:

Elaeodendron australe, Geijera parviflora, Eucalyptus albens, Callitris columellaris, Casuarina cristata, Heterodendrum oleifolium, Stipa verticellata, Lepidium bonariense.

These specimens were observed but not identified:

115.

Profile description

Soil described by W. T. Ward on 3 December, 1986. Drilled depth 193cm

Horizon	(cm)	(Sample; depth)
A_1	0–20	(1; 0–10) Dark reddish brown (5YR3/2, 5YR3/3 dry) medium heavy clay; <2% distinct fine reddish brown (2.5YR4/4) flecks produced by faunal mixing; moderate 20–50mm subangular blocky structure, with moderate 2–5mm granular structure; very firm; smooth-ped fabric; 2–5% <5mm cracks; 2–5% 0.075–1mm pores; common very fine roots; <2% 2–6mm angular basalt fragments; pH 7.5;
A_1		(2; 10–20) Dark reddish brown (5YR3/2) medium heavy clay; <2% distinct fine

		reddish brown (2.5YR4/4) flecks produced by faunal mixing; moderate 20–50mm subangular blocky structure; very firm; smooth–ped fabric; 2–5% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 7.5; genetic boundary, clear, smooth change to
B_2	20–60	(3; 30–40) Dark reddish brown (5YR3/4) medium heavy clay; strong 10–20mm angular blocky structure; moderately strong; smooth–ped and polished ped fabric; 2–5% 5–10mm cracks; <2% 0.075–1mm pores; few fine roots; <2% 6–20mm angular basalt fragments; pH 7.5;
B_2		(4; 50–60) Dark reddish brown (5YR3/4) medium heavy clay; strong 20–50mm prismatic structure, breaking to moderate 10–20mm angular blocky structure; moderately strong; smooth–ped and polished ped fabric; 2–5% <5mm cracks; few very fine roots; 2–10% 6–20mm angular basalt fragments; pH 8.5; genetic boundary, clear, wavy change to
C	60+	(5; 70–80) Dark red (2.5YR3/6) light medium clay; moderate 5–10mm subangular blocky structure; very firm; smooth–ped fabric; 2–10% prominent medium light reddish brown (5YR6/4) calcareous nodules; 2–5% <5mm cracks; few very fine roots; 50–90% 6–20mm subangular basalt fragments; pH 8.5;
C		(6; 120–130) Dark red (2.5YR3/6) light medium clay; apedal single–grained structure; moderately strong; nodular fracture; earthy fabric; 2–10% prominent medium pink (5YR7/4) calcareous veins; 2–5% <5mm cracks; >90% 6–20mm subangular basalt fragments; pH 8.5;

Parent rock: residual, basalt

Comments

Parent rock is probably Garawilla Volcanics. 70–80 abundant fragments of basalt, seemingly well structured. Shearvane difficult because of stone abundance. Tensile 120–130 not possible because of broken rock and fragmented character. 157.04 has some grit in light to medium clay. 157.05 is gravelly light to medium clay.

Soil classification

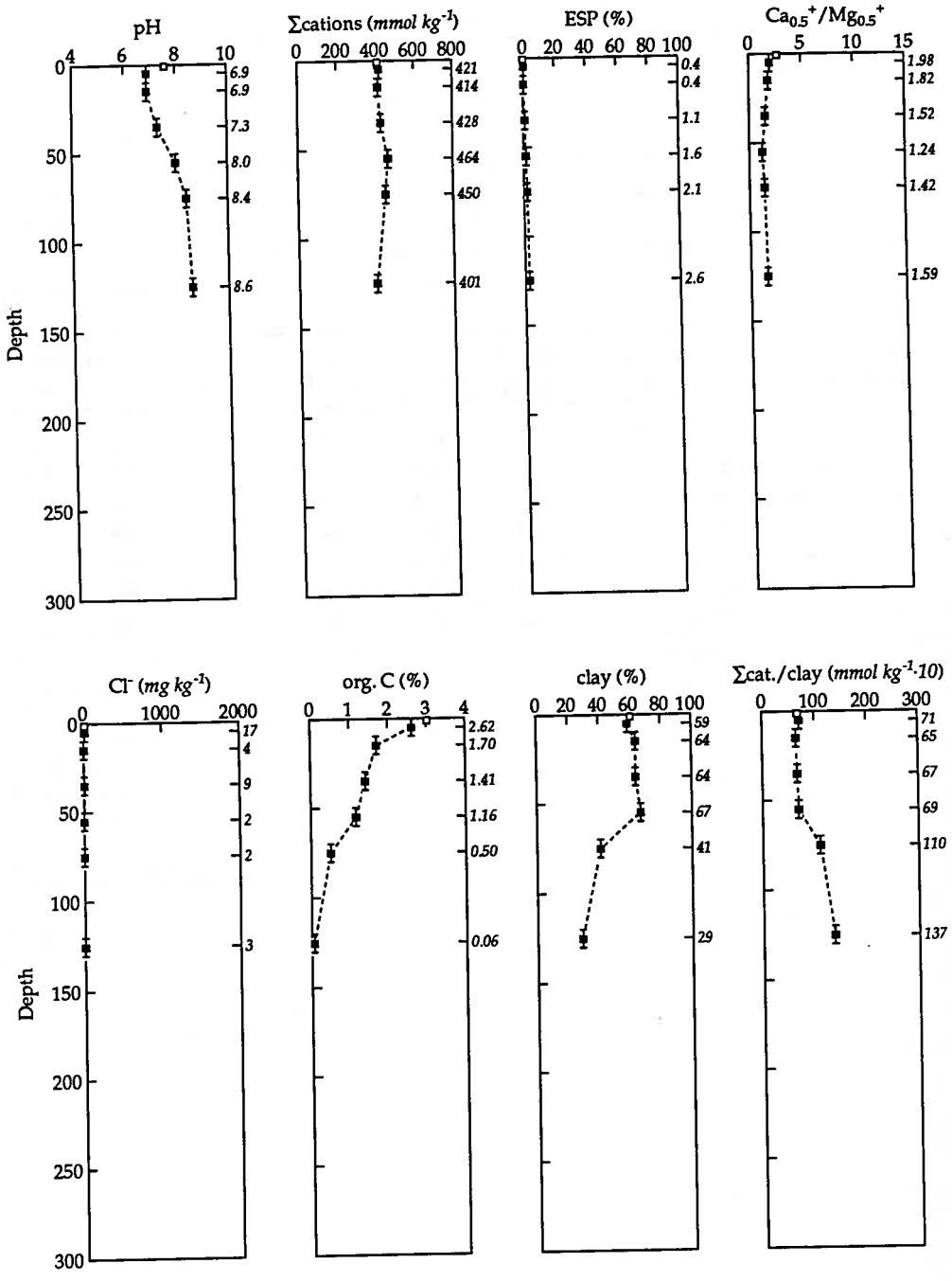
Principal profile form: Ug5.32
Great soil group: Prairie soils
Soil taxonomy unit: Haplustolls

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	7.6	10.8	3.02	<0.1	21	13	61
1	$A_1$1	0–10	6.9	22.5	2.62	0.1	25	11	59
2	$A_1$2	10–20	6.9	11.6	1.70	<0.1	22	11	64
3	$B_2$1	30–40	7.3	5.4	1.41	0.1	21	12	64
4	$B_2$2	50–60	8.0	11.7	1.16	0.5	19	11	67
5	C	70–80	8.4	13.7	0.50	25.9	18	15	41
6	C	120–130	8.6	9.9	0.06	8.9	43	18	29

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
17	–	–	267	99	45.3	<0.1	<1	412	<0.1
17	65.2	43	258	130	31.6	1.8	<1	421	0.4
4	40.9	9	256	141	15.6	1.6	<1	414	0.4
9	41.3	6	250	164	9.4	4.7	<1	428	1.1
2	3.6	10	246	198	11.4	7.6	<1	464	1.6
2	0.8	12	254	179	7.0	9.4	<1	450	2.1
3	<0.1	<1	235	148	7.9	10.4	<1	401	2.6

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed158

Site location

Grid reference: 787700mE 6657600mN
Farmer: W.R.(Rick) Tapp
Site described by D. McGarry on 12 March, 1985
The site is located at a proximate grid point

Elevation: 412m
Farm name: Fernleigh

Site description

Slope: 2° Slope direction: 0°
Landform: high terrace
Surface moist when sampled
Coarse self-mulching surface, virgin state
Use: native pasture, native forest, wheat
Visible cracks: width 1mm

Topography: gently sloping

Site comments

Access to target impossible due to fence and dense forest. This site is approximately 200m to the west. Drilling ceased at 127cm on heavy cobbles. Basaltic stones on soil surface. Few to common surface stones, but core is relatively stone free in upper part. Site is on enormous alluvial fan which heads into sandstone/basalt scarp.

Site vegetation

The following species were noted:

Elaeodendron australe, Geijera parviflora, Eucalyptus albens, Acacia salicina, Dodonaea viscosa, Paspalidium ?constrictum, Stipa ?scabra, Dichanthium sericeum, Paspalidium aversum, Cymbopogon refractus, Hybanthus monopetalus, Vicia sativa, Lepidium bonariense.

These specimens were observed but not identified:

106, 183, 270.

Profile description

Soil described by D. McGarry on 13 June, 1986. Drilled depth 127cm

Horizon	(cm)	(Sample; depth)
A_1	0–35	(1; 0–10) Dark brown (7.5YR3/2) light clay; moderate 2–5mm granular structure; moderately weak; rough-ped fabric; 2–5% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 6.5;
A_1		(2; 10–20) Dark brown (7.5YR3/2) light medium clay; moderate 2–5mm granular

		structure, with moderate 10–20mm subangular blocky structure; very firm; smooth–ped and rough–ped fabric; 2–5% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 7.0;
A_1v		(3; 30–40) Dark reddish brown (5YR3/3) medium heavy clay; 2–10% distinct fine dark brown (7.5YR3/2) patches of soil, filling cracks; weak 10–20mm subangular blocky structure; very firm; rough fracture; smooth–ped and rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; 2–10% 6–20mm rounded basalt fragments; pH 7.0; genetic boundary, very diffuse, smooth change to
B_2	35+	(4; 70–80) Dark reddish brown (5YR3/3) light medium clay; <2% distinct fine dark brown (7.5YR3/2) patches of soil, filling cracks; weak >100mm wedge structure, with moderate 10–20mm subangular blocky structure; moderately strong; rough fracture; smooth–ped fabric; <2% distinct fine pink (5YR8/4) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; 2–10% 2–6mm subrounded basalt fragments; pH 8.0;
B_2		(5; 120–127) Yellowish red (5YR4/6, 5YR4/4 dry) light clay; moderate 10–20mm subangular blocky structure; very firm; smooth–ped fabric; 2–10% distinct medium pink (5YR7/4) calcareous soft segregations; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; 10–50% 20–60mm rounded basalt fragments; pH 8.5;

Parent rock: colluvial sediment, basalt, sandstone

Comments

0–4cm has been poached ?by cattle trampling. 158.04 has some rock fragments coated with manganese. 158.05 is stony, with bands of soil, separately in a broken plastic bag. Soil is stony. ? some sandstone in parent material. Kaputar Volcanics. Vertisol because of the very weak wedge structure seems unreasonable, so we try mollisol.

Soil classification

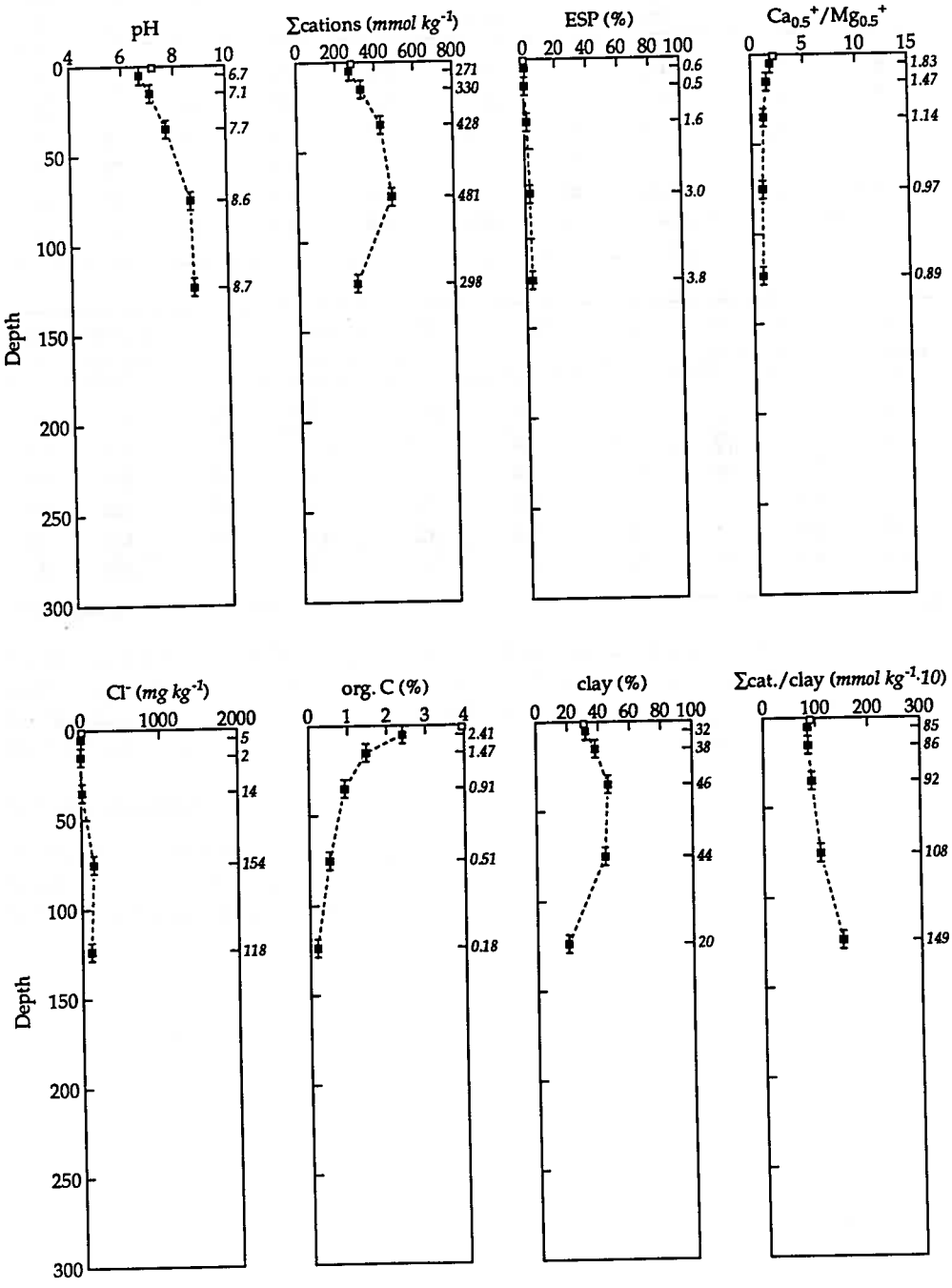
Principal profile form: Ug5.32
Great soil group: Brown clays
Soil taxonomy unit: Haplustolls

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	$A_1$1	0–2	7.2	9.2	3.94	<0.1	38	24	31
1	$A_1$1	0–10	6.7	22.6	2.41	<0.1	43	21	32
2	$A_1$2	10–20	7.1	9.3	1.47	<0.1	36	24	38
3	A_1v	30–40	7.7	6.8	0.91	<0.1	29	23	46
4	$B_2$1	70–80	8.6	30.2	0.51	3.3	29	22	44
5	$B_2$2	120–127	8.7	22.2	0.18	0.6	58	22	20

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^{+}$ *mmol kg^{-1}*	$Mg_{0.5}^{+}$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^{+}$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
14	–	–	173	80	28.6	<0.1	<1	282	<0.1
5	64.5	75	163	89	17.3	1.6	<1	271	0.6
2	21.0	46	188	128	12.8	1.8	<1	330	0.5
14	1.3	2	221	195	5.5	6.8	<1	428	1.6
154	0.6	11	228	234	4.2	14.6	<1	481	3.0
118	0.3	19	133	150	3.5	11.3	<1	298	3.8

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed159

Site location

Grid reference: 742800mE 6656500mN
camping reserve
Site described by D. McGarry on 14 March, 1985
The site is located at a proximate grid point

Elevation: 194m
near Glen Arvon

Site description

Slope: 0°
Landform: levee, subject to runoff
Surface dry when sampled
Weak surface crust
Use: native forest
Visible cracks: width 1mm, depth 310mm

Topography: strongly rolling

Site comments

Flood level on trees +3m. This would put 1m of flood water on adjoining terrace.

Profile description

Soil described by D. McGarry on 14 March, 1985. Drilled depth 285cm

Horizon	(cm)	(Sample; depth)
A_1a	0–4	(1; 0–4) Very dark greyish brown (10YR3/2, 10YR5/3 dry) light clay; moderate 2–5mm angular blocky structure; moderately firm; rough–ped fabric; <2% 0.075–1mm pores; few fine roots; pH 7.0; stratigraphic boundary, sharp, smooth change to
A_1	4–20	(2; 4–10) Very dark greyish brown (10YR3/2, 10YR3/2 dry) medium clay; moderate 20–50mm subangular blocky structure; moderately strong; smooth–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; common very fine roots; pH 6.7;
A_1		(3; 10–20) Very dark greyish brown (10YR3/2) light clay; moderate 10–20mm subangular blocky structure; moderately strong; smooth–ped fabric; <2% <5mm cracks; <2% 1–2mm pores; common very fine roots; pH 6.8; genetic boundary, clear, smooth change to
C	20–100	(4; 30–40) Yellowish brown (10YR5/4) light medium clay; 2–10% faint medium very dark greyish brown (10YR3/2) organic stains; <2% distinct fine black (10YR2/1) charcoal fragments; moderate 10–20mm subangular blocky structure; moderately strong; rough–ped fabric; <2% <5mm cracks; <2% 1–2mm pores; common very fine roots; <2% 2–6mm rounded charcoal; pH 6.8;

C		(5; 70–80) Dark brown (7.5YR3/2) sandy clay; 20–50% faint medium dark brown (10YR3/3) organic stains; weak >100mm subangular blocky structure weak 2–5mm cast granular structure; moderately firm; nodular fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.6; stratigraphic boundary, clear, smooth change to
$2A_1$	100–140	(6; 120–130) Very dark greyish brown (10YR3/2) fine sandy clay; 10–20% faint medium very dark grey (10YR3/1) organic stains; weak 20–50mm prismatic structure weak 2–5mm cast granular structure; moderately strong; nodular fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 7.0; genetic boundary, gradual, smooth change to
2C	140+	(7; 250–260) Brown (10YR4/3) sandy clay; 10–20% faint coarse very dark grey (10YR3/1) organic stains; <2% distinct fine black (10YR2/1) charcoal fragments; weak 20–50mm subangular blocky structure; moderately weak; granular fracture; rough–ped fabric; <2% <5mm cracks; <2% 1–2mm pores; few very fine roots; <2% 2–6mm rounded charcoal; pH 7.2;

Parent rock: alluvial sediment, clay

Comments

Flood level on trees +3m. This could put 1m of flood water on adjoining terrace. The soil is recent alluvial with slight soil development at several levels. Possibly Gn4.52 due to rough peds in B.

Soil classification

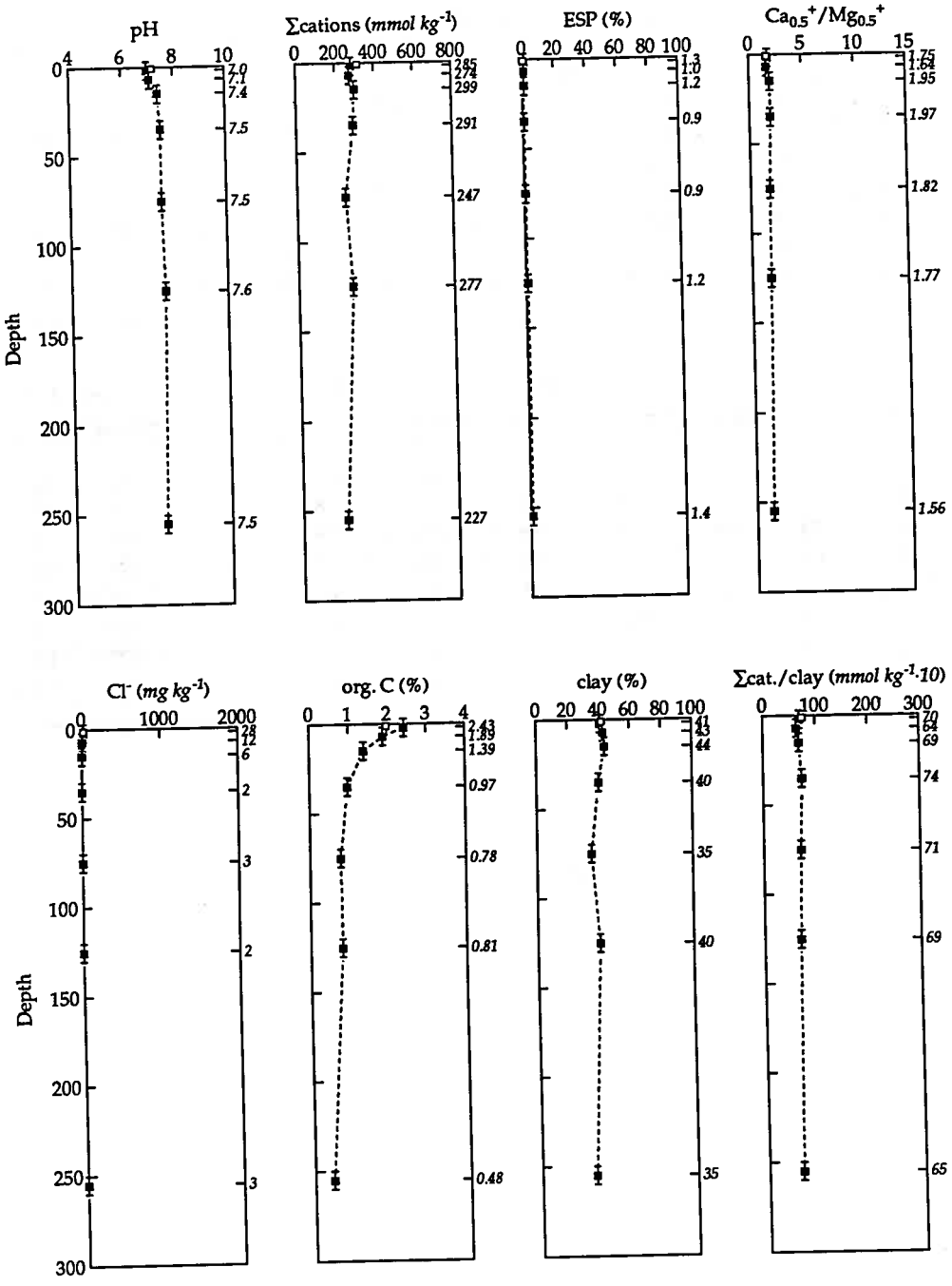
Principal profile form: Gn2.82
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1a	0–2	7.2	18.8	1.98	<0.1	24	31	42
1	A_1a	0–4	7.0	12.9	2.43	<0.1	27	28	41
2	$A_1$1	4–10	7.1	8.6	1.89	<0.1	25	29	43
3	$A_1$2	10–20	7.4	5.0	1.39	<0.1	22	32	44
4	C	30–40	7.5	4.8	0.97	<0.1	32	27	40
5	C	70–80	7.5	4.8	0.78	<0.1	45	19	35
6	$2A_1$	120–130	7.6	4.3	0.81	<0.1	35	23	40
7	2C	250–260	7.5	4.0	0.48	<0.1	45	19	35

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^{+}$ *mmol kg^{-1}*	$Mg_{0.5}^{+}$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^{+}$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
27	–	–	184	111	19.4	1.8	<1	316	0.6
28	<0.1	145	169	97	15.7	3.8	<1	285	1.3
12	2.8	120	161	98	12.6	2.8	<1	274	1.0
6	1.4	77	190	97	7.9	3.5	<1	299	1.2
2	0.6	46	188	95	5.9	2.7	<1	291	0.9
3	0.4	44	154	85	5.4	2.1	<1	247	0.9
2	0.4	60	171	96	6.1	3.3	<1	277	1.2
3	0.2	57	133	85	5.0	3.1	<1	227	1.4

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed160

Site location

Grid reference: 745500mE 6656400mN
stock route
Site described by G. M. Roberts on 30 March, 1985
The site is located at a grid point

Elevation: 198m
near Wirebrush Lagoon

Site description

Slope: 0°
Landform: middle terrace
Surface moist when sampled
Weak surface crust
Use: stock route
Visible cracks: width 1mm, depth 80mm

Topography: flat

Site vegetation

The following species were noted:

Eucalyptus camaldulensis, Paspalidium ?constrictum, Enteropogon acicularis, Bassia quinquecuspis ssp. semiglabra.

These specimens were observed but not identified:

157.

Profile description

Soil described by G. M. Roberts on 30 July, 1985. Drilled depth 269cm

Horizon	(cm)	(Sample; depth)
A_1a	0–5	(1; 0–5) Dark brown (10YR3/3, 10YR4/3 dry) medium clay; weak 20–50mm subangular blocky structure; moderately strong; rough-ped fabric; 2–10% distinct medium very dark greyish brown (10YR3/2) organic <2% 5–10mm cracks; <2% 2–5mm pores; few very fine roots; pH 7.0; stratigraphic boundary, abrupt, smooth change to
$2A_1$	5–22	(2; 5–10) Dark brown (10YR3/3, 10YR4/2 dry) fine sandy clay; weak 5–10mm subangular blocky structure; moderately strong; rough-ped fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 6.5;
$2A_1$		(3; 10–20) Very dark greyish brown (10YR3/2, 10YR3/2 dry) fine sandy clay; <2% faint medium brown (10YR5/3) patches of sediment, filling cracks; weak 20–50mm subangular blocky structure; very firm; rough-ped fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 7.0; genetic boundary, clear, smooth

		change to
$2A_1$	22–67	(4; 30–40) Dark reddish brown (5YR3/2) fine sandy clay; moderate 20–50mm subangular blocky structure; moderately firm; smooth-ped and rough-ped fabric; <2% <5mm cracks; <2% 1–2mm pores; few very fine roots; pH 7.5; genetic boundary, gradual, smooth change to
$2B_2$	67+	(5; 70–80) Reddish brown (5YR4/4) fine sandy clay; 2–10% faint medium dark reddish brown (5YR3/3) flecks produced by faunal mixing; <2% distinct fine black (N2/) charcoal fragments; weak 20–50mm subangular blocky structure; moderately firm; nodular fracture; rough-ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.0;
$2B_2$		(6; 120–130) Dark brown (7.5YR4/4) coarse sandy clay; apedal massive, with weak 10–20mm subangular blocky structure; moderately firm; rough fracture; earthy and smooth-ped fabric; 10–20% distinct coarse very dark grey (N3/) clayey veins; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; pH 8.5;
$2B_2$		(7; 250–260) Dark brown (7.5YR4/4) sandy clay; apedal massive, with weak 5–10mm subangular blocky structure; moderately weak; rough fracture; earthy and smooth-ped fabric; 2–10% distinct coarse very dark grey (N3/) clayey veins; <2% <5mm cracks; 2–5% 1–2mm pores; few very fine roots; pH 7.5;

Comments

Surface skin evident, almost surface crust, 1cm thick. Core described 4 months after collection. Top 5cm appears to be recent alluvium. No bottom to the B2 horizon was encountered.

Soil classification

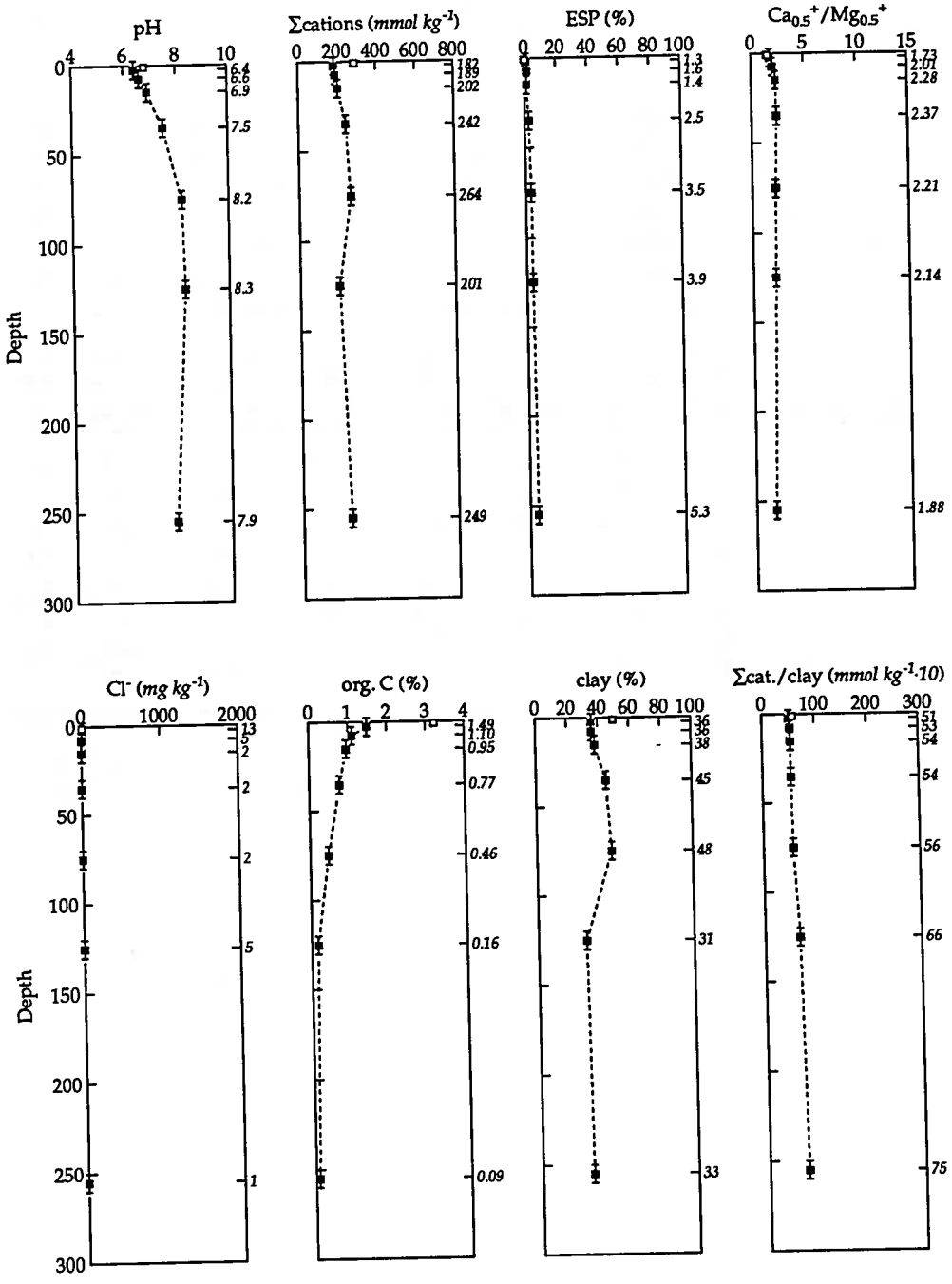
Principal profile form: Ug6.1
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1a	0–2	6.8	15.7	3.22	<0.1	18	27	50
1	A_1a	0–5	6.4	8.8	1.49	<0.1	43	18	36
2	$2A_1$1	5–10	6.6	5.7	1.10	<0.1	47	16	36
3	$2A_1$2	10–20	6.9	4.9	0.95	<0.1	46	15	38
4	$2A_1$3	30–40	7.5	4.3	0.77	<0.1	39	15	45
5	$2B_2$1	70–80	8.2	5.5	0.46	<0.1	39	13	48
6	$2B_2$2	120–130	8.3	6.2	0.16	<0.1	61	8	31
7	$2B_2$3	250–260	7.9	5.3	0.09	<0.1	42	24	33

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
11	–	–	157	103	27.4	0.7	<1	288	0.2
13	16.3	139	105	61	14.3	2.3	<1	182	1.3
5	7.3	79	117	58	10.7	3.1	<1	189	1.6
2	3.3	54	134	59	7.3	2.8	<1	202	1.4
2	1.2	80	161	68	7.0	6.1	<1	242	2.5
2	0.2	69	171	77	6.9	9.1	<1	264	3.5
5	0.2	58	128	60	5.1	7.8	<1	201	3.9
1	0.2	47	152	81	3.4	13.2	<1	249	5.3

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed161

Site location

Grid reference: 748300mE 6656400mN
Farmer: Peter Leitch
Site described by E. Veldhuis on 29 December, 1984
The site is located at a grid point

Elevation: 199m
Farm name: Myall Vale

Site description

Slope: 0°
Landform: middle terrace
Surface dry when sampled
Weak surface crust, cultivated
Use: fallow, sorghum
Visible cracks: width 1mm

Topography: flat

Profile description

Soil described by E. Veldhuis on 29 March, 1985. Drilled depth 300cm

Horizon	(cm)	(Sample; depth)
A_1p	0–7	(1; 0–7) Very dark greyish brown (10YR3/2, 10YR5/2 dry) medium clay; weak <2mm granular structure; very weak; rough-ped fabric; few very fine roots; pH 7.0; plough sole, abrupt, smooth change to
A_1	7–82	(2; 10–20) Very dark greyish brown (10YR3/2) medium heavy clay; moderate 20–50mm subangular blocky structure; moderately firm; smooth-ped fabric; <2% distinct medium very pale brown (10YR7/3) calcareous nodules; <2% <5mm cracks; 2–5% 0.075–1mm pores; few very fine roots; pH 8.5;
A_1		(3; 30–40) Dark brown (7.5YR3/2) medium clay; moderate 10–20mm subangular blocky structure; moderately weak; smooth-ped fabric; <2% distinct medium very pale brown (10YR7/3) calcareous nodules; <2% <5mm cracks; 2–5% 0.075–1mm pores; pH 8.3;
A_1		(4; 70–80) Very dark greyish brown (10YR3/2) medium clay; weak 20–50mm subangular blocky structure; moderately firm; nodular fracture; smooth-ped fabric; 2–10% faint medium very pale brown (10YR7/3) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 8.2; genetic boundary, diffuse, smooth change to
B_2	82–170	(5; 120–130) Dark brown (7.5YR3/2) light medium clay; 2–10% faint medium very dark grey (N3/) organic stains; weak 50–100mm subangular blocky structure; moderately firm; nodular fracture; smooth-ped fabric; <2% distinct fine very pale brown (10YR7/4) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores;

pH 8.7; genetic boundary, diffuse, smooth change to

B_2	170+	(6; 250–260) Dark brown (7.5YR4/4) light medium clay; 10–20% faint medium brown (10YR4/3) organic stains; weak 20–50mm subangular blocky structure moderate 5–10mm lenticular structure; moderately weak; moderate slickensides, smooth-ped fabric; 2–10% extremely coarse calcareous veins; <2% fine manganese nodules; <2% prominent medium reddish yellow (7.5YR6/8) ferruginous veins; <2% <5mm cracks; <2% 0.075–1mm pores; pH 8.3;

Comments

At 250–260cm, CaCO3 veins occupy old slickensides. Weak surface crust of 2cm from recent rainfall.

Soil classification

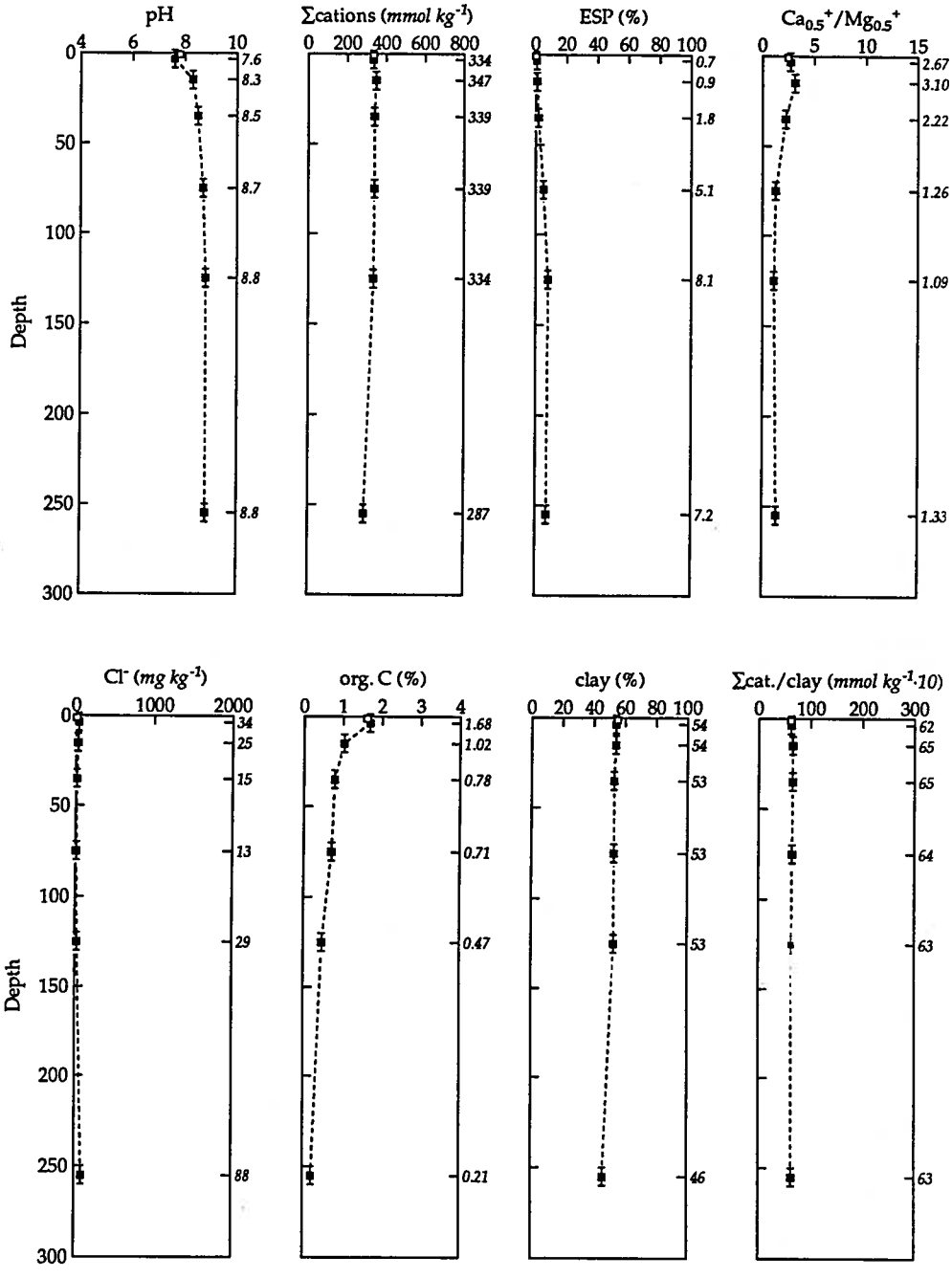
Principal profile form: Ug5.15
Great soil group: Brown clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E.C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	7.8	11.2	1.60	0.1	20	22	55
1	A_1p	0–7	7.6	17.5	1.68	0.1	23	20	54
2	$A_1$1	10–20	8.3	16.0	1.02	1.1	23	20	54
3	$A_1$2	30–40	8.5	15.6	0.78	3.6	24	18	53
4	$A_1$3	70–80	8.7	19.7	0.71	2.6	25	19	53
5	$B_2$1	120–130	8.8	24.6	0.47	2.9	23	19	53
6	$B_2$2	250–260	8.8	23.1	0.21	0.8	37	16	46

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
4	–	–	218	90	25.9	0.1	<1	334	<0.1
34	38.2	21	224	84	22.9	2.3	<1	334	0.7
25	25.8	3	251	81	12.3	3.0	<1	347	0.9
15	3.2	5	225	101	6.2	6.0	<1	339	1.8
13	0.5	14	175	139	7.0	17.3	<1	339	5.1
29	0.5	14	155	143	8.5	26.9	<1	334	8.1
88	1.6	49	149	112	6.4	20.6	<1	287	7.2

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed162

Site location

Grid reference: 751100mE 6656200mN
Department of Agriculture
Site described by M. Korevaar on 1 April, 1985
The site is located on a regular transect

Elevation: 199m
Myall Vale Research Station

Site description

Slope: 0°
Landform: middle terrace
Surface dry when sampled
Coarse self-mulching surface, cultivated
Use: fallow, irrigated cotton
Visible cracks: width 1mm

Topography: flat

Site vegetation

The site was under cotton, and included bare ground.

Profile description

Soil described by M. Korevaar on 21 March, 1985. Drilled depth 298cm

Horizon	(cm)	(Sample; depth)
A_1p	0–10	(1; 0–10) Very dark greyish brown (10YR3/2, 10YR3/2 dry) medium heavy clay; moderate 10–20mm subangular blocky structure; moderately firm; earthy fabric; <2% <5mm cracks; <2% 0.075–1mm pores; few fine roots; 2–10% 2–6mm subrounded tabular quartz fragments; pH 8.0; plough sole, abrupt, irregular change to
A_1p	10–17	(2; 10–17) Very dark greyish brown (10YR3/2, 10YR3/2 dry) medium heavy clay; moderate 10–20mm subangular blocky structure; moderately weak; earthy fabric; <2% faint fine light yellowish brown (10YR6/4) calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; <2% 2–6mm subrounded tabular quartz fragments; pH 7.7; plough sole, abrupt, irregular change to
A_1x	17–52	(3; 30–40) Very dark greyish brown (10YR3/2) medium heavy clay; weak 20–50mm subangular blocky structure; moderately firm; earthy fabric; <2% <5mm cracks; 2–5% 0.075–1mm pores; common very fine roots; 2–10% 2–6mm subrounded quartz fragments; pH 7.5; abrupt, smooth change to
A_1	52–116	(4; 70–80) Very dark greyish brown (10YR3/2) medium heavy clay; weak 10–20mm lenticular structure, breaking to weak 5–10mm subangular blocky structure; moderately strong; smooth-ped fabric; <2% faint fine very pale brown (10YR7/4)

		calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; few very fine roots; <2% 2–6mm subrounded quartz fragments; pH 8.3; genetic boundary, very diffuse, smooth change to
B_2	116–230	(5; 120–130) Dark brown (7.5YR4/4) medium clay; 10–20% distinct medium dark brown (10YR3/3) flecks produced by faunal mixing; weak 20–50mm subangular blocky structure; moderately firm; smooth-ped fabric; <2% distinct fine dark grey (10YR4/1) organic veins; <2% medium calcareous nodules; <2% <5mm cracks; <2% 0.075–1mm pores; pH 8.5; genetic boundary, diffuse, smooth change to
$2B_2$	230+	(6; 250–260) Strong brown (7.5YR5/8) coarse sandy clay; weak 10–20mm biscuitty structure, breaking to strong 5–10mm subangular blocky structure; moderately firm; earthy fabric; 20–50% prominent very coarse dark brown (7.5YR3/2) organic veins; <2% faint medium dark brown (7.5YR4/4) calcareous nodules; <2% 5–10mm cracks; <2% 0.075–1mm pores; pH 8.7;

Parent rock: alluvial sediment, clay

Comments

Ap2 horizon appears to be compacted. Second colour of B2b is restricted to crack infill.

Soil classification

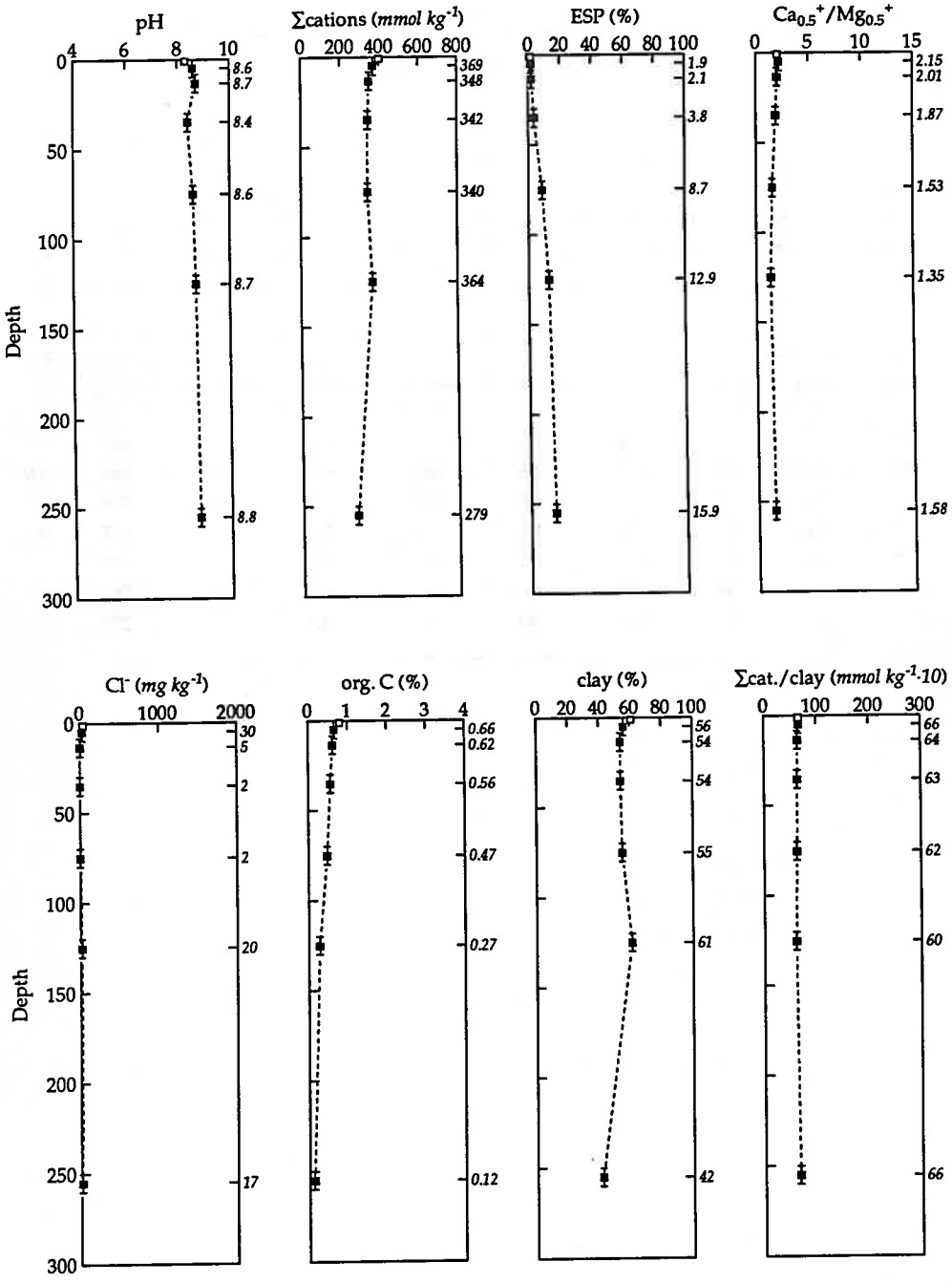
Principal profile form: Ug5.15
Great soil group: Grey clays

Soil chemical and particle-size analyses

Sample	Horizon	Depth *cm*	pH	E. C. *mS m^{-1}*	org. C %	$CaCO_3$ %	sand %	silt %	clay %
0	A_1p	0–2	8.3	14.3	0.81	<0.1	18	19	61
1	A_1p	0–10	8.6	10.0	0.66	<0.1	26	17	56
2	A_1p2	10–17	8.7	8.0	0.62	0.1	28	17	54
3	A_1x	30–40	8.4	8.1	0.56	<0.1	29	16	54
4	A_1	70–80	8.6	19.6	0.47	1.2	26	17	55
5	B_2	120–130	8.7	19.6	0.27	0.2	18	21	61
6	$2B_22$	250–260	8.8	20.5	0.12	0.3	44	13	42

Cl^- *mg kg^{-1}*	NO_3^-–N *mg kg^{-1}*	P *mg kg^{-1}*	$Ca_{0.5}^+$ *mmol kg^{-1}*	$Mg_{0.5}^+$ *mmol kg^{-1}*	K^+ *mmol kg^{-1}*	Na^+ *mmol kg^{-1}*	$Al_{0.33}^+$ *mmol kg^{-1}*	Σcations *mmol kg^{-1}*	ESP %
45	–	–	254	124	17.1	5.1	<1	401	1.3
30	3.5	39	237	110	14.7	6.9	<1	369	1.9
5	2.1	36	219	109	13.8	7.4	<1	348	2.1
2	0.6	33	210	112	7.4	13.0	<1	342	3.8
2	0.2	47	183	120	8.0	29.5	<1	340	8.7
20	5.3	48	177	131	8.9	46.9	<1	364	12.9
17	0.5	28	140	89	5.2	44.3	<1	279	15.9

Soil chemistry profiles



Namoi Valley soil study: Edgeroi Sheet

Site ed163

Site location

Grid reference: 753800mE 6656200mN
Elevation: 201m
Farmer: Auscott Ltd
Farm name: Auscott
Site described by G. M. Roberts on 24 April, 1985
The site is located at a grid point

Site description

Slope: 0°
Topography: flat
Landform: middle terrace
Surface dry when sampled
Fine self-mulching surface, cultivated
Use: irrigated cotton
Visible cracks: width 2mm

Site vegetation

The site was under cotton.

Profile description

Soil described by D. McGarry on 10 May, 1985. Drilled depth 285cm

Horizon	(cm)	(Sample; depth)
A_1p	0–6	(1; 0–6) Very dark greyish brown (10YR3/2) light medium clay; weak 50–100mm subangular blocky structure; very firm; rough fracture; rough–ped fabric; <2% 5–10mm cracks; <2% 0.075–1mm pores; pH 8.2; arbitrary boundary,
A_1	6–165	(2; 10–20) Very dark greyish brown (10YR3/2) medium heavy clay; weak >100mm subangular blocky structure; very firm; rough fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; pH 8.2;
A_1		(3; 30–40) Very dark greyish brown (10YR3/2) medium heavy clay; weak >100mm subangular blocky structure; moderately firm; rough fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.0;
A_1		(4; 70–80) Very dark greyish brown (10YR3/2) medium heavy clay; weak >100mm subangular blocky structure; moderately firm; nodular fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.2;
A_1		(5; 120–130) Very dark greyish brown (10YR3/2) medium heavy clay; weak >100mm subangular blocky structure; moderately firm; rough fracture; rough–ped fabric; <2% <5mm cracks; <2% 0.075–1mm pores; pH 9.2; genetic boundary, diffuse, tongued change to