APPENDICES

Appendix 1 The bulk density in broadcasting trial

Materials	0-30 cm bulk density (g/cm^3)				30-60 cm bulk density (g/cm^3)			
	Before planting	4	8	12	Before planting	4	8	12
1. Control	1.51	1.48 ab	1.49 a	1.50 a	1.56	1.68	1.54	1.60 a
2. CF		1.45 b	1.48 ab	1.35 b		1.62	1.50	1.41 bcd
3. CS_25 + CF		1.63 a	1.53 a	1.35 b		1.69	1.46	1.37 cd
4. CS_50 + CF		1.44 b	1.45 ab	1.51 a		1.66	1.50	1.52 abc
5. CS_75 + CF		1.47 ab	1.41 ab	1.28 b		1.63	1.47	1.37 cd
6. FC + CF		1.50 ab	1.47 ab	1.49 a		1.63	1.46	1.57 ab
7. CM + CF		1.43 b	1.46 ab	1.32 b		1.64	1.44	1.33 d
8. BG + CF		1.51 ab	1.35 b	1.50 a		1.56	1.46	1.57 ab
F-test		*	*	**		ns	ns	**
C.V.(%)		1.68	1.32	1.34		1.69	2.10	1.63

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 2 Particle size distribution of broadcasting trial

Materials	0-30 cm particle size distribution (%)									30-60 cm particle size distribution								
	Before planting			12 month			2 years			Before planting			12 month			2 years		
	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay
1. Control	86.42	8.43	5.14	85.16	8.24	6.60 ab	88.56 a	6.44 b	5.00 b	84.48	8.55	6.98	84.28	9.24	6.48	86.50	7.13	6.38
2. CF				87.67	6.79	5.53 c	87.06 a	7.56 b	5.38 b				87.42	7.24	5.35	84.50	7.63	7.88
3. CS_25 + CF				81.21	9.77	9.01 ab	87.75 a	7.25 b	5.00 b				84.17	8.42	7.41	84.38	8.13	7.50
4. CS_50 + CF				83.92	8.89	7.19 abc	86.13 a	7.44 b	6.44 b				80.69	10.91	8.39	82.25	9.63	8.13
5. CS_75 + CF				82.11	10.25	7.64 bc	86.75 a	7.75 b	5.50 b				82.75	9.97	7.29	81.75	9.75	8.50
6. FC + CF				81.95	10.10	7.95 bc	86.06 a	8.50 ab	5.44 b				82.62	9.89	7.49	84.00	7.00	9.00
7. CM + CF				82.54	8.95	8.51 a	79.88 b	10.94 a	9.19 a				80.34	11.84	7.81	81.75	8.50	9.75
8. BG + CF				85.07	6.92	8.01 bc	85.63 a	8.00 b	6.38 b				84.72	8.24	7.04	87.13	5.13	7.75
F-test				ns	ns	*	**	**	**				ns	ns	ns	ns	ns	ns
C.V.(%)				3.38	21.98	14.50	1.95	16.08	13.04				4.10	20.24	24.38	3.00	22.67	19.73

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 3 Mean weight diameter, degree of aggregation and aggregate stability in broadcast trial

Materials	0-30 cm MWD (mm)		30-60 cm MWD (mm)		0-30 cm degree (%)		30-60 cm degree (%)		0-30 cm AS (%)		30-60 cm AS (%)	
	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m
1. Control	0.0364	0.0388	0.0425	0.0401	52.41	55.02	55.54	57.72 b	0.11	0.10	0.14	0.08 bc
2. CF		0.0488		0.0356		57.25		55.73 b		0.10		0.15 abc
3. CS_25 + CF		0.0540		0.0499		61.55		92.54 a		0.19		0.05 c
4. CS_50 + CF		0.0423		0.0423		53.31		54.16 b		0.20		0.27 a
5. CS_75 + CF		0.0433		0.0363		58.35		55.83 b		0.11		0.14 abc
6. FC + CF		0.0428		0.0551		56.48		57.87 b		0.11		0.21 ab
7. CM + CF		0.0430		0.0486		58.95		62.13 b		0.11		0.14 abc
8. BG + CF		0.0470		0.0435		60.60		59.49 b		0.18		0.17 abc
F-test		ns		ns		ns		**		ns		**
C.V.(%)		8.00		35.61		6.30		14.72		23.25		11.95

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 4 Soil moisture in broadcast trial

Materials	0-30 cm moisture (%)				30-60 cm moisture (%)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	7.36	8.21	2.45 b	8.37 b	9.25	11.74 b	5.71	9.84 b
2. CF		7.09	4.31 a	22.05 a		10.12 b	5.49	24.16 a
3. CS_25 + CF		8.79	3.67 ab	20.12 a		10.48 b	7.07	21.74 a
4. CS_50 + CF		8.41	3.46 ab	10.36 b		9.23 b	5.34	9.00 b
5. CS_75 + CF		8.26	4.35 a	20.79 a		9.18 b	4.52	22.06 a
6. FC + CF		8.87	3.84 a	11.57 b		9.52 b	6.47	8.96 b
7. CM + CF		7.14	4.40 a	22.25 a		9.41 b	8.06	23.66 a
8. BG + CF		7.04	3.11 ab	7.97 b		18.25 a	6.94	9.04 b
F-test		ns	**	**		**	ns	**
C.V.(%)		25.30	17.38	20.60		25.21	27.48	18.27

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 5 pH (1:5 H_2O) in broadcast trial

Materials	0-30 cm pH (1:5 H_2O)					30-60 cm pH (1:5 H_2O)				
	Before planting	4 month	8 month	12 month	2 years	Before planting	4 month	8 month	12 month	2 years
1. Control	5.56	5.55 ab	5.20 b	4.39 d	6.70	5.31	5.38	5.19 ab	4.81 abc	6.80 b
2. CF		5.52 ab	5.01 b	4.19 d	6.80		5.33	4.99 b	4.26 d	6.80 b
3. CS_25 + CF		5.95 a	5.44 b	5.00 b	6.70		5.53	5.38 ab	4.98 ab	6.90 b
4. CS_50 + CF		5.46 ab	5.93 a	4.91 bc	6.60		5.18	5.62 ab	4.82 abc	6.70 b
5. CS_75 + CF		5.44 ab	6.09 a	5.58 a	6.90		5.25	5.78 a	5.14 a	6.90 b
6. FC + CF		4.93 b	5.14 b	4.55 cd	6.60		5.05	5.29 ab	4.53 cd	6.80 b
7. CM + CF		5.43 ab	5.34 b	4.88 bc	7.10		6.03	5.45 ab	5.01 a	7.60 a
8. BG + CF		5.29 ab	5.20 b	4.33 d	6.80		5.49	5.70 a	4.59 bcd	6.90 b
F-test		*	**	**	ns		ns	**	**	**
C.V.(%)		7.55	1.73	1.83	1.30		8.44	7.65	1.75	1.01

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at $P<0.05$ by DMRT

Appendix 6 Electrical conductivity of soil in broadcast trial

Materials	0-30 cm electrical conductivity (dS/m)				30-60 cm electrical conductivity (dS/m)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.01	0.02 b	0.02 ab	0.06 b	0.01	0.01 b	0.02 ab	0.05 b
2. CF		0.04 b	0.02 ab	0.06 b		0.04 ab	0.02 ab	0.07 a
3. CS_25 + CF		0.05 ab	0.02 ab	0.07 b		0.05 ab	0.02 ab	0.05 b
4. CS_50 + CF		0.07 a	0.02 ab	0.07 b		0.03 ab	0.01 b	0.06 ab
5. CS_75 + CF		0.04 b	0.02 b	0.06 b		0.02 ab	0.02 ab	0.04 b
6. FC + CF		0.02 b	0.03 a	0.10 a		0.04 ab	0.03 a	0.07 a
7. CM + CF		0.03 b	0.03 ab	0.07 b		0.05 a	0.02 ab	0.06 ab
8. BG + CF		0.05 ab	0.02 ab	0.07 b		0.04 ab	0.03 a	0.05 ab
F-test		**	*	**		ns	*	**
C.V.(%)		14.57	13.47	4.88		4.84	10.84	6.56

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 7 Organic matter of broadcast trial

Materials	0-30 cm organic matter (%)					30-60 cm organic matter (%)				
	Before planting	4 month	8 month	12 month	2 years	Before planting	4 month	8 month	12 month	2 years
1. Control	0.51	0.29 d	0.64 bc	0.41 b	0.42 c	0.39	0.21 b	0.51 bc	0.34 d	0.15 b
2. CF		0.35 cd	0.69 abc	0.44 b	0.47 bc		0.33 b	0.65 ab	0.99 abc	0.17 b
3. CS_25 + CF		0.55 ab	0.69 abc	0.51 ab	0.45 bc		0.18 b	0.65 ab	0.89 bc	0.20 ab
4. CS_50 + CF		0.54 ab	0.75 ab	0.51 ab	0.50 ab		0.31 b	0.61 abc	1.00 abc	0.16 b
5. CS_75 + CF		0.46 bcd	0.55 c	0.43 b	0.45 bc		0.19 b	0.48 c	0.88 c	0.14 b
6. FC + CF		0.66 a	0.85 a	0.60 a	0.50 ab		0.59 a	0.63 ab	1.02 ab	0.21 ab
7. CM + CF		0.52 abc	0.72 abc	0.48 b	0.55 a		0.30 b	0.74 a	1.05 a	0.26 a
8. BG + CF		0.41 bcd	0.68 abc	0.47 b	0.50 ab		0.24 b	0.68 a	0.95 abc	0.21 ab
F-test		**	**	**	**		**	**	**	**
C.V.(%)		7.57	5.95	5.02	1.90		18.91	4.95	2.93	5.99

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 8 Available phosphorus broadcast trial

Materials	0-30 cm available phosphorus (ppm)				30-60 cm available phosphorus (ppm)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	16.71	17.77 e	23.59 b	20.23 c	10.47	12.42 b	17.61 b	12.80 d
2. CF		26.75 bcd	29.77 b	25.92 bc		21.14 ab	26.54 b	13.49 d
3. CS_25 + CF		33.48 ab	26.13 b	32.25 b		15.04 b	20.10 b	23.67 c
4. CS_50 + CF		21.44 cde	27.88 b	25.92 bc		18.41 b	21.71 b	32.94 b
5. CS_75 + CF		20.11 de	24.51 b	23.92 bc		14.55 b	24.43 b	23.47 c
6. FC + CF		35.98 a	50.98 a	111.32 a		28.69 a	39.38 a	62.52 a
7. CM + CF		28.81 abc	25.26 b	22.34 bc		14.16 b	28.28 b	15.44 d
8. BG + CF		25.22 bcde	25.24 b	22.72 bc		18.34 b	23.18 b	12.79 d
F-test		**	**	**		**	**	**
C.V.(%)		21.43	25.02	20.22		33.25	31.18	14.57

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 9 Exchangeable potassium broadcast trial

Materials	0-30 cm exchangeable potassium ($cmol_c/kg$)				30-60 cm exchangeable potassium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.15	0.13	0.09 cd	0.12 abc	0.15	0.12 a	0.10 bc	0.10 ab
2. CF		0.17	0.08 d	0.10 bc		0.10 ab	0.10 bc	0.12 bc
3. CS_25 + CF		0.13	0.10 bcd	0.12 ab		0.07 b	0.08 bc	0.09 d
4. CS_50 + CF		0.15	0.12 bc	0.14 ab		0.08 ab	0.07 c	0.10 cd
5. CS_75 + CF		0.11	0.12 b	0.08 c		0.07 b	0.08 bc	0.10 cd
6. FC + CF		0.11	0.16 a	0.16 a		0.09 ab	0.11 b	0.13 abc
7. CM + CF		0.11	0.16 a	0.15 a		0.07 b	0.15 a	0.16 a
8. BG + CF		0.12	0.10 bc	0.10 bc		0.09 ab	0.11 bc	0.13 abc
F-test		ns	**	**		**	**	**
C.V.(%)		12.83	14.16	25.86		10.58	7.11	5.23

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at $P<0.05$ by DMRT

Appendix 10 Calcium in broadcast trial

Materials	0-30 cm Calcium ($cmol_c/kg$)				30-60 cm Calcium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.78	0.68 c	0.21 cd	0.17 c	0.82	0.78	0.09 ab	0.04 e
2. CF		1.01 bc	0.10 d	0.25 c		1.01	0.24 b	0.21 de
3. CS_25 + CF		2.73 a	0.51 abc	0.61 ab		0.98	0.48 ab	0.45 bc
4. CS_50 + CF		1.56 b	0.78 a	0.71 ab		0.99	0.58 a	0.68 a
5. CS_75 + CF		0.96 bc	0.69 ab	0.90 a		1.02	0.62 a	0.58 ab
6. FC + CF		1.33 bc	0.36 bcd	0.40 bc		1.14	0.23 ab	0.35 cd
7. CM + CF		1.51 b	0.29 cd	0.40 bc		1.14	0.45 ab	0.55 abc
8. BG + CF		0.98 bc	0.20 cd	0.23 c		1.22	0.56 a	0.36 cd
F-test		**	**	**		ns	**	**
C.V.(%)		37.14	17.58	13.21		40.30	17.19	1.50

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at $P<0.05$ by DMRT

Appendix 11 Magnesium in broadcast trial

Materials	0-30 cm Magnesium ($cmol_c/kg$)				30-60 cm Magnesium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.27	0.16 c	0.23 abcd	0.20 abc	0.25	0.27	0.21 b	0.23 abc
2. CF		0.28 ab	0.15 d	0.15 c		0.24	0.15 c	0.15 c
3. CS_25 + CF		0.23 bc	0.25 abc	0.26 ab		0.17	0.23 b	0.23 abc
4. CS_50 + CF		0.24 bc	0.29 ab	0.26 ab		0.30	0.23 b	0.31 a
5. CS_75 + CF		0.30 ab	0.18 cd	0.25 ab		0.23	0.21 b	0.19 bc
6. FC + CF		0.34 a	0.23 abcd	0.28 ab		0.23	0.21 b	0.27 ab
7. CM + CF		0.31 ab	0.30 a	0.29 a		0.24	0.33 a	0.30 a
8. BG + CF		0.24 bc	0.21 bcd	0.19 bc		0.26	0.23 b	0.18 bc
F-test		**	**	**		ns	**	**
C.V.(%)		23.70	8.19	8.39		7.83	5.41	8.16

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 12 Cation exchange capacity in broadcast trial

Materials	0-30 cm CEC ($cmol_c/kg$)				30-60 cm CEC ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	4.45	4.72	4.01 c	3.88 b	5.41	3.33	5.09	4.46 bc
2. CF		5.33	4.18 bc	4.44 ab		4.12	6.00	3.22 c
3. CS_25 + CF		6.17	4.79 abc	4.01 ab		3.85	5.43	4.39 bc
4. CS_50 + CF		5.32	5.68 ab	5.06 ab		6.25	5.44	7.20 a
5. CS_75 + CF		4.80	5.56 abc	5.17 a		4.55	5.07	5.60 ab
6. FC + CF		6.02	4.84 abc	4.98 ab		4.11	6.06	5.86 ab
7. CM + CF		6.47	5.90 a	5.13 ab		3.77	6.85	5.86 ab
8. BG + CF		6.18	5.46 abc	4.95 ab		5.01	5.19	4.74 bc
F-test		ns	**	**		ns	ns	**
C.V.(%)		24.79	21.07	17.68		18.99	22.05	27.70

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 13 Bulk density of soil in banding trial

Materials	0-30 cm bulk density (g/cm^3)				30-60 cm bulk density (g/cm^3)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	1.52	1.48	1.50	1.47	1.57	1.68	1.62	1.57
2. ½ CF		1.45	1.46	1.47		1.62	1.54	1.56
3. CS_25 + ½ CF		1.40	1.49	1.58		1.60	1.51	1.65
4. CS_50 + ½ CF		1.45	1.46	1.56		1.59	1.55	1.56
5. CS_75 + ½ CF		1.44	1.41	1.48		1.63	1.54	1.60
6. FC + ½ CF		1.42	1.43	1.45		1.61	1.55	1.60
7. CM + ½ CF		1.43	1.46	1.40		1.64	1.58	1.55
8. BG + ½ CF		1.51	1.49	1.38		1.56	1.64	1.70
F-test		ns	ns	ns		ns	ns	ns
C.V. (%)		2.32	1.25	4.21		1.59	1.21	2.55

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 14 Particle size distribution in banding trial

Materials	0-30 cm particle size distribution (%)									30-60 cm particle size distribution (%)								
	Before planting			12 month			2 year			Before planting			12 month			2 year		
	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay	sand	silt	clay
1. Control	87.25	7.45	5.30	86.46	6.86	6.68	87.38	7.94	4.69	85.79	8.35	5.87	85.91	8.49	5.60	87.25	7.81	4.94
2. 1/2 CF				87.71	6.92	5.37	87.81	7.31	4.88				88.18	7.10	4.71	87.25	7.38	5.38
3. CS_25 + ½ CF				85.71	8.39	5.90	86.19	8.13	5.69				83.41	8.85	7.74	87.38	6.38	6.25
4. CS_50 + ½ CF				88.68	6.13	5.19	86.56	8.06	5.38				82.69	8.92	8.39	86.94	6.38	6.69
5. CS_75 + ½ CF				89.80	5.69	4.51	85.19	9.56	5.25				84.98	8.25	6.77	84.44	8.69	6.88
6. FC + ½ CF				89.52	6.05	4.43	88.00	6.69	5.31				86.09	7.79	6.12	85.25	8.38	6.38
7. CM + ½ CF				89.51	5.65	4.84	86.81	6.63	6.56				80.34	10.96	8.70	85.19	8.06	6.75
8. BG + ½ CF				85.57	8.22	6.21	87.81	5.88	6.31				79.77	10.47	9.76	82.88	9.94	7.19
F-test				ns	ns	ns	ns	ns	ns				ns	ns	ns	ns	ns	ns
C.V. (%)				3.42	24.85	26.72	0.55	0.82	6.87				4.87	23.72	31.46	26.02	13.6	16.8

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 15 Mean weight diameter, degree of aggregation and aggregate stability in banding trial

Materials	0-30 cm MWD (mm)		30-60 cm MWD (mm)		0-30 cm degree (%)		30-60 cm degree (%)		0-30 cm AS (%)		30-60 cm AS (%)	
	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m	Before planting	12 m
1. Control	0.0284	0.0347	0.0342	0.0307	51.50	54.5350	54.34	54.6925	0.04	0.1675	0.06	0.0925
2. ½ CF		0.0377		0.0318		54.8800		53.1925		0.2300		0.1075
3. CS_25 + ½ CF		0.0447		0.0344		52.2900		53.6250		0.6625		0.2175
4. CS_50 + ½ CF		0.0474		0.0328		56.8575		56.9400		0.5675		0.0650
5. CS_75 + ½ CF		0.0544		0.0395		60.1233		52.9525		0.4433		0.2175
6. FC + ½ CF		0.0434		0.0361		55.8675		54.1075		0.3975		0.1050
7. CM + ½ CF		0.0831		0.0309		63.9275		53.6200		0.4225		0.1225
8. BG + ½ CF		0.0632		0.0429		59.3475		56.9350		0.9150		0.1750
F-test		ns		ns		ns		ns		ns		ns
C.V.(%)		16.41		6.28		9.71		5.81		17.54		21.56

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 16 Soil moisture of degraded sandy soil in banding trial

Materials	0-30 cm moisture (%)				30-60 cm moisture (%)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	7.29	8.21	4.05 ab	14.48	9.41	11.74 bc	8.73 ab	17.64 ab
2. ½ CF		7.09	4.57 a	12.31		10.12 ab	8.20 abc	14.85 b
3. CS_25 + ½ CF		6.62	2.95 ab	14.90		8.42 a	6.01 bcd	16.58 ab
4. CS_50 + ½ CF		6.99	2.96 ab	16.65		8.93 a	7.53 abcd	18.01 ab
5. CS_75 + ½ CF		7.76	2.70 b	17.33		9.15 a	5.11 d	19.38 a
6. FC + ½ CF		6.10	3.01 ab	18.75		9.47 a	5.59 cd	19.24 a
7. CM + ½ CF		7.14	3.63 ab	17.15		9.41 a	7.23 abcd	19.05 ab
8. BG + ½ CF		7.04	3.35 ab	13.55		12.50 c	10.06 a	15.33 ab
F-test		ns	*	ns		**	**	*
C.V. (%)		21.96	21.32	20.64		10.78	18.39	14.72

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 17 pH (1:5 H_2O) of degraded sandy soil in banding trial

Materials	0-30 cm pH 1:5 H_2O					30-60 cm pH 1:5 H_2O				
	Before planting	4 month	8 month	12 month	2 year	Before planting	4 month	8 month	12 month	2 year
1. Control	5.46	5.91 ab	5.23 b	4.76 c	6.00 c	5.69	5.88	5.24 b	4.88 d	6.10 c
2. ½ CF		5.78 b	5.33 b	4.76 c	6.20 bc		5.60	5.35 b	5.08 cd	6.40 bc
3. CS_25 + ½ CF		6.17 ab	5.91 a	5.36 abc	6.40 abc		5.50	5.68 ab	5.03 cd	6.50 bc
4. CS_50 + ½ CF		6.13 ab	6.04 a	5.04 abc	6.60 abc		6.08	5.55 ab	5.75 abc	6.70 b
5. CS_75 + ½ CF		6.65 a	5.99 a	5.82 a	6.70 ab		6.14	5.98 a	5.88 ab	6.80 b
6. FC + ½ CF		5.82 b	5.63 ab	4.98 bc	6.50 abc		5.78	5.81 a	5.15 bcd	6.70 b
7. CM + ½ CF		5.79 b	5.40 b	4.76 c	6.50 abc		5.50	5.28 b	4.98 cd	6.50 bc
8. BG + ½ CF		5.63 b	5.18 b	5.75 ab	6.90 a		5.66	5.25 b	5.93 a	7.40 a
F-test		**	**	**	**		ns	**	**	**
C.V. (%)		7.69	6.33	10.97	7.55		6.68	5.76	10.11	5.33

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 18 Electrical conductivity of soil in banding trial

Materials	0-30 cm electrical conductivity (dS/m)				30-60 cm electrical conductivity (dS/m)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.01	0.04 b	0.02 bc	0.06 ab	0.01	0.01 b	0.02 b	0.04
2. ½ CF		0.03 b	0.02 bc	0.06 b		0.02 ab	0.02 b	0.05
3. CS_25 + ½ CF		0.05 ab	0.02 c	0.05 b		0.04 a	0.02 b	0.05
4. CS_50 + ½ CF		0.03 b	0.02 bc	0.06 b		0.02 ab	0.02 b	0.04
5. CS_75 + ½ CF		0.08 ab	0.03 bc	0.07 ab		0.04 a	0.03 b	0.05
6. FC + ½ CF		0.04 b	0.04 a	0.05 b		0.03 ab	0.04 a	0.04
7. CM + ½ CF		0.11 a	0.03 b	0.10 a		0.03 ab	0.03 b	0.06
8. BG + ½ CF		0.03 b	0.02 bc	0.07 ab		0.02 ab	0.02 b	0.06
F-test		**	**	*		*	**	ns
C.V. (%)		21.95	9.13	12.81		16.79	10.86	15.63

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 19 Organic matter in banding trial

Materials	0-30 cm organic matter (%)					30-60 cm organic matter (%)				
	Before planting	4 month	8 month	12 month	2 year	Before planting	4 month	8 month	12 month	2 year
1. Control	0.46	0.43	0.37 b	0.59	0.30	0.37	0.24 b	0.30 d	0.40 bc	0.32
2. ½ CF		0.46	0.46 b	0.60	0.30		0.25 b	0.38 d	0.41 bc	0.35
3. CS_25 + ½ CF		0.45	0.43 b	0.56	0.35		0.25 b	0.50 c	0.47 ab	0.38
4. CS_50 + ½ CF		0.39	0.37 b	0.58	0.41		0.36 ab	0.59 bc	0.53 a	0.39
5. CS_75 + ½ CF		0.51	0.52 ab	0.70	0.44		0.34 ab	0.63 b	0.48 ab	0.40
6. FC + ½ CF		0.52	0.64 a	0.74	0.45		0.42 a	0.79 a	0.36 c	0.53
7. CM + ½ CF		0.43	0.43 b	0.76	0.36		0.21 a	0.51 c	0.34 c	0.37
8. BG + ½ CF		0.49	0.40 b	0.74	0.33		0.34 ab	0.57 bc	0.53 a	0.37
F-test		ns	**	ns	ns		**	**	**	ns
C.V. (%)		6.06	8.51	8.79	10.04		11.41	0.38	5.48	7.47

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 20 Available phosphorus of soil in banding trial

Materials	0-30 cm available phosphorus (ppm)				30-60 cm available phosphorus (ppm)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	15.61	16.32 b	16.00 c	14.46 d	8.77	10.66 d	16.62 a	8.68 e
2. ½ CF		18.16 b	19.86 c	27.40 b		8.80 d	16.73 a	19.41 c
3. CS_25 + ½ CF		24.67 a	16.45 c	17.03 cd		9.06 d	18.63 a	8.91 e
4. CS_50 + ½ CF		15.46 b	18.13 c	19.70 c		14.84 c	17.33 a	11.29 e
5. CS_75 + ½ CF		24.39 a	21.23 c	28.04 b		25.26 a	17.52 a	19.55 c
6. FC + ½ CF		29.18 a	72.52 a	42.85 a		20.96 b	79.63 c	33.64 a
7. CM + ½ CF		18.62 b	33.76 b	25.62 b		9.93 d	32.17 b	15.50 d
8. BG + ½ CF		15.40 b	28.90 b	29.70 b		11.64 cd	29.31 b	24.87 b
F-test		**	**	**		**	**	**
C.V. (%)		18.38	12.92	14.02		19.24	9.02	15.81

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 21 Exchangeable potassium in banding trial

Materials	0-30 cm exchangeable potassium ($cmol_c/kg$)				30-60 cm exchangeable potassium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.11	0.11 b	0.14 d	0.14 ab	0.13	0.06 c	0.15 c	0.15 ab
2. ½ CF		0.12 b	0.16 cd	0.13 ab		0.07 c	0.15 c	0.14 ab
3. CS_25 + ½ CF		0.14 b	0.17 c	0.14 ab		0.08 a	0.21 b	0.14 ab
4. CS_50 + ½ CF		0.12 b	0.15 cd	0.12 ab		0.08 a	0.21 b	0.16 ab
5. CS_75 + ½ CF		0.14 b	0.16 cd	0.12 b		0.08 a	0.21 b	0.16 ab
6. FC + ½ CF		0.16 b	0.18 bc	0.12 ab		0.08 a	0.21 b	0.13 b
7. CM + ½ CF		0.22 a	0.23 a	0.16 a		0.07 ab	0.25 a	0.18 a
8. BG + ½ CF		0.13 b	0.20 ab	0.15 a		0.07 bc	0.26 a	0.18 ab
F-test		**	**	*		**	**	*
C.V. (%)		8.42	3.45	5.32		2.29	4.88	6.94

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at $P<0.05$ by DMRT

Appendix 22 Calcium in banding trial

Materials	Topsoil calcium ($cmol_c/kg$)				Subsoil calcium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.73	0.57 b	0.34 c	0.30	0.82	0.94 b	0.33 b	0.40 b
2. ½ CF		0.59 b	0.67 bc	0.17		0.96 b	0.41 b	0.44 ab
3. CS_25 + ½ CF		1.67 b	1.50 abc	0.54		1.22 b	0.77 a	0.53 ab
4. CS_50 + ½ CF		1.52 b	1.82 ab	0.55		1.72 b	0.74 a	0.93 a
5. CS_75 + ½ CF		3.69 a	2.01 a	0.81		3.00 a	1.03 a	0.91 a
6. FC + ½ CF		0.79 b	1.38 abc	0.45		1.01 b	0.91 a	0.42 ab
7. CM + ½ CF		0.55 b	0.96 abc	0.55		0.98 b	0.38 b	0.45 ab
8. BG + ½ CF		0.56 b	0.56 c	0.68		0.97 b	0.41 b	0.66 ab
F-test		**	**	ns		**	**	**
C.V. (%)		22.74	18.00	17.66		22.12	8.53	16.10

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at $P<0.05$ by DMRT

Appendix 23 Magnesium in banding trial

Materials	Topsoil magnesium ($cmol_c/kg$)				Subsoil magnesium ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	0.26	0.25 b	0.26 ab	0.25 ab	0.23	0.28	0.24 ab	0.25
2. ½ CF		0.25 b	0.25 ab	0.17 b		0.25	0.22 ab	0.18
3. CS_25 + ½ CF		0.29 ab	0.32 ab	0.24 b		0.36	0.16 b	0.22
4. CS_50 + ½ CF		0.28 ab	0.33 a	0.20 b		0.24	0.15 b	0.20
5. CS_75 + ½ CF		0.36 a	0.24 b	0.25 ab		0.27	0.16 b	0.27
6. FC + ½ CF		0.33 ab	0.31 ab	0.23 b		0.32	0.28 a	0.28
7. CM + ½ CF		0.31 ab	0.29 ab	0.29 ab		0.29	0.22 ab	0.29
8. BG + ½ CF		0.24 b	0.24 b	0.41 a		0.25	0.20 ab	0.40
F-test		**	**	**		ns	**	ns
C.V. (%)		6.54	6.68	3.73		8.70	9.66	14.73

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 24 Cation exchange capacity in banding trial

Materials	Topsoil CEC ($cmol_c/kg$)				Subsoil CEC ($cmol_c/kg$)			
	Before planting	4 month	8 month	12 month	Before planting	4 month	8 month	12 month
1. Control	3.14	2.99 c	3.39 b	3.54 ab	3.81	4.80 b	3.70	3.57 f
2. ½ CF		3.56 bc	2.97 b	3.01 c		4.77 b	3.87	3.38 f
3. CS_25 + ½ CF		4.41 ab	3.94 ab	4.90 ab		7.62 a	4.09	5.00 bc
4. CS_50 + ½ CF		3.73 bc	4.46 a	5.34 a		8.09 a	3.87	4.68 bcd
5. CS_75 + ½ CF		5.25 a	3.91 ab	5.93 a		7.83 a	4.08	5.33 b
6. FC + ½ CF		2.85 c	3.45 ab	4.93 ab		5.98 b	3.74	3.98 ef
7. CM + ½ CF		2.67 c	3.27 b	4.85 ab		4.87 b	3.48	4.16 def
8. BG + ½ CF		3.12 c	3.62 ab	5.30 a		4.66 b	3.52	7.98 a
F-test		**	**	**		**	ns	**
C.V. (%)		19.80	19.27	21.18		16.40	16.98	13.50

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 25 Germination and stool density in broadcast trial

Treatment	Germination	Stool density (stools/ha.)									
	(%/total bud)	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	32.86 abc	16,725 d	14,988 b	15,046	12,674 b	15,625 c	16,840 bc	14,583 b	15,162 ab	17,593 bc	10,995 c
2. CF	33.75 abc	23,380 abc	16,725 ab	13,889	14,988 a	16,898 bc	20,081 ab	17,766 ab	17,245 a	22,280 ab	13,715 ab
3. CS_25 + CF	29.29 bc	18,576 cd	17,477 a	14,063	15,451 a	18,692 ab	18,403 abc	17,477 ab	18,634 a	21,470 ab	12,616 abc
4. CS_50 + CF	27.72 c	20,718 cd	17,535 a	15,046	15,914 a	15,451 c	18,113 abc	19,792 a	12,153 b	18,576 abc	14,005 a
5. CS_75 + CF	18.69 d	30,208 a	18,345 a	15,914	15,104 a	19,444 a	21,354 a	19,618 a	19,097 a	23,264 a	13,194 abc
6. FC + CF	37.37 a	20,660 cd	16,956 ab	13,947	15,625 a	15,162 c	15,394 c	16,262 ab	12,442 b	15,972 c	11,227 bc
7. CM + CF	34.14 abc	27,488 ab	17,130 a	15,567	15,162 a	16,493 bc	20,313 ab	19,213 a	18,461 a	22,801 a	13,947 a
8. BG + CF	36.16 ab	28,067 a	18,634 a	15,972	17,245 a	17,477 abc	21,123 ab	16,551 ab	18,287 a	21,875 ab	12,616 abc
F-test	**	**	*	ns	*	**	**	*	**	**	**
C.V. (%)	25.08	13.12	7.69	17.64	10.15	6.59	10.64	13.04	12.83	11.09	9.22

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 26 Tiller density in broadcast trial

Treatment	Tiller density (tillers/hectare)							
	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	53,935 b	55,440	48,495 c	45,139 b	41,204	37,731 b	39,294 c	36,574 c
2. CF	68,866 ab	53,067	56,887 bc	54,803 a	56,597	48,148 a	45,255 bc	66,262 ab
3. CS_25 + CF	65,799 ab	59,433	58,681 bc	53,646 ab	59,722	54,282 a	51,042 ab	54,861 bc
4. CS_50 + CF	54,861 b	58,681	57,118 bc	56,424 a	56,771	52,836 a	50,231 ab	67,014 ab
5. CS_75 + CF	69,271 ab	61,574	60,359 bc	59,201 a	56,944	54,688 a	54,688 a	74,190 ab
6. FC + CF	59,838 b	62,558	79,282 a	57,350 a	57,986	55,266 a	52,257 ab	74,132 ab
7. CM + CF	77,546 a	62,789	68,866 ab	60,938 a	50,347	55,208 a	56,539 a	81,713 a
8. BG + CF	54,688 b	59,491	61,111 bc	57,870 a	56,019	57,002 a	48,611 ab	60,995 abc
F-test	**	ns	**	**	ns	**	**	**
C.V. (%)	12.28	8.77	10.94	8.08	20.79	9.94	8.51	18.65

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 27 Number of tiller per stool in broadcast trial

Treatment	Number of tiller per stool (tillers/stool)									
	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	1.71 c	2.67 b	4.42 ab	3.83	3.50	3.21	2.63	3.25 b	2.25	2.25
2. CF	3.38 ab	3.54 b	3.50 ab	2.88	2.88	3.08	2.71	3.17 b	2.21	2.42
3. CS_25 + CF	2.71 bc	3.38 b	2.88 b	3.04	2.71	2.79	2.63	3.25 b	2.42	2.58
4. CS_50 + CF	3.75 ab	3.96 ab	4.13 ab	3.46	3.50	3.50	3.50	4.00 ab	2.21	3.17
5. CS_75 + CF	2.75 bc	3.17 b	3.04 ab	2.58	2.42	2.50	2.17	3.58 ab	2.17	2.50
6. FC + CF	4.58 a	4.96 a	4.75 a	3.38	3.63	4.21	3.50	5.29 a	2.75	3.33
7. CM + CF	2.75 bc	3.13 b	3.42 ab	3.13	3.00	2.92	2.92	3.75 ab	2.17	2.29
8. BG + CF	3.42 ab	3.29 b	3.04 ab	2.92	2.46	2.50	2.29	3.04 b	2.04	2.25
F-test	**	**	*	ns	ns	ns	ns	*	ns	ns
C.V. (%)	21.67	18.90	22.08	21.59	27.50	28.43	29.99	24.44	20.65	19.35

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 28 Plant height in broadcast trial

Treatment	Stalk height (cms.)									
	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	18.13 b	45.79 b	99.54 c	148.04 d	194.00 d	228.25 d	244.42 c	256.00 b	271.50 c	288.67 c
2. CF	25.83 a	65.29 a	134.29 ab	181.75 bc	234.67 bc	268.83 bc	292.71 ab	306.83 a	324.13 a	382.54 a
3. CS_25 + CF	24.38 a	61.42 ab	135.04 ab	188.54 b	241.04 abc	274.71 abc	289.83 ab	302.25 a	312.71 ab	376.38 a
4. CS_50 + CF	23.71 a	65.92 a	136.88 ab	191.58 ab	239.67 abc	270.83 bc	287.04 ab	302.75 a	313.33 ab	368.25 ab
5. CS_75 + CF	28.75 a	74.88 a	147.25 a	193.33 ab	249.75 ab	285.42 ab	309.58 a	323.88 a	340.75 a	407.83 a
6. FC + CF	24.42 a	72.13 a	152.83 a	207.88 a	261.04 a	293.50 a	307.00 a	317.67 a	329.79 a	400.71 a
7. CM + CF	26.21 a	66.63 a	142.58 a	198.25 ab	251.75 ab	285.63 ab	304.42 a	320.63 a	334.50 a	382.79 a
8. BG + CF	25.92 a	58.13 ab	121.50 b	170.21 c	223.58 c	256.88 c	266.75 bc	274.63 b	286.21 bc	328.33 bc
F-test	**	**	**	**	**	**	**	**	**	**
C.V. (%)	10.49	11.98	6.60	4.52	4.29	3.87	4.58	4.16	4.24	5.51

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 29 Stalk length and diameter in broadcast trial

Treatment	Stalk length (cm)					Stalk diameter (cm)				
	8 month	9 month	10 month	11 month	12 month	8 month	9 month	10 month	11 month	12 month
1. Control	193.83 c	215.17 b	211.00 b	219.63 f	236.17	2.90	2.83	2.65	2.68	2.59
2. CF	240.25 a	264.29 a	257.88 a	291.33 ab	264.83	2.92	2.90	2.74	2.71	2.73
3. CS_25 + CF	223.58 abc	243.46 ab	255.08 a	263.75 cde	263.88	2.80	2.83	2.82	2.81	2.59
4. CS_50 + CF	226.46 ab	251.42 a	249.83 a	256.67 de	278.67	2.98	2.94	2.83	2.90	2.72
5. CS_75 + CF	238.50 ab	271.25 a	286.50 a	304.29 a	282.46	2.73	2.82	2.83	2.71	2.70
6. FC + CF	243.79 a	266.79 a	260.42 a	263.79 cde	268.54	2.86	2.98	2.75	2.73	2.75
7. CM + CF	222.50 abc	255.96 a	261.79 a	284.29 abc	279.54	2.69	2.85	2.77	2.78	2.83
8. BG + CF	206.63 bc	238.50 ab	253.83 a	240.33 ef	241.88	2.72	2.77	2.75	2.88	2.55
F-test	*	**	**	**	ns	ns	ns	ns	ns	ns
C.V. (%)	8.87	5.94	7.34	5.33	8.44	11.35	1.47	1.86	1.78	2.06

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 30 Stalk weight in broadcast trial

Treatment	Stalk weight (kg)				
	8 month	9 month	10 month	11 month	12 month
1. Control	1.30	1.35	1.18	1.36 c	1.18
2. CF	1.50	1.70	1.35	1.68 ab	1.42
3. CS_25 + CF	1.37	1.45	1.38	1.58 abc	1.44
4. CS_50 + CF	1.47	1.60	1.40	1.63 abc	1.51
5. CS_75 + CF	1.41	1.55	1.49	1.68 ab	1.44
6. FC + CF	1.50	1.75	1.30	1.53 bc	1.51
7. CM + CF	1.35	1.66	1.49	1.87 a	1.74
8. BG + CF	1.30	1.43	1.38	1.49 bc	1.23
F-test (99%)	ns	ns	ns	*	ns
C.V. (%)	4.48	4.11	4.11	3.71	4.94

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 31 Brix and commercial cane sugar in broadcast trial

Treatment	Brix (degree)					Commercial cane sugar (C.C.S.)				
	8 month	9 month	10 month	11 month	12 month	8 month	9 month	10 month	11 month	12 month
1. Control	16.76	17.28 a	18.12	20.38	19.33 ab	8.53	10.82	11.61	12.48 b	12.98
2. CF	16.02	17.04 a	17.88	19.67	19.46 ab	8.88	9.80	11.29	13.31 a	13.03
3. CS_25 + CF	16.58	17.18 a	18.31	19.15	19.77 a	8.86	10.03	11.09	13.30 a	13.74
4. CS_50 + CF	16.40	17.39 a	18.40	20.22	19.90 a	8.16	10.12	11.56	13.43 a	13.43
5. CS_75 + CF	16.39	16.76 a	18.57	19.13	18.48 ab	8.75	11.15	11.32	12.96 ab	13.32
6. FC + CF	16.28	16.23 ab	16.56	18.70	18.18 b	8.49	9.72	10.61	13.17 a	13.21
7. CM + CF	16.60	15.34 b	17.84	18.38	18.13 b	8.31	9.97	11.28	12.87 ab	13.05
8. BG + CF	16.33	16.78 a	18.03	20.32	19.14 ab	8.51	10.13	11.17	13.04 ab	13.53
F-test	ns	**	ns	ns	*	ns	ns	ns	*	ns
C.V. (%)	4.81	3.94	3.86	5.13	4.64	4.90	6.54	4.97	2.78	3.52

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 32 Germination and stool density in banding trial

Materials	Germination	Stool density (stools/ha.)									
	(%/total buds)	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	12.91 bc	14,005 a	9,635 b	8,218 a	13,223 ab	15,943 a	13,802 a	14,120 ab	14,005 a	14,728 a	9,838 a
2. ½ CF	23.20 a	13,686 a	13,021 a	9,230 a	14,410 ab	14,699 a	15,770 a	15,422 a	13,976 a	15,567 a	11,458 a
3. CS_25 + ½ CF	22.58 a	15,249 a	11,458 ab	8,536 a	16,233 a	14,583 a	16,117 a	14,149 ab	13,889 a	15,625 a	11,806 a
4. CS_50 + ½ CF	21.46 ab	14,005 a	12,529 a	8,970 a	13,137 ab	14,207 a	13,947 a	13,976 ab	12,934 a	14,323 a	8,825 a
5. CS_75 + ½ CF	18.51 abc	13,744 a	12,529 a	8,304 a	14,005 ab	12,674 a	14,844 a	13,831 ab	12,269 a	14,120 a	9,925 a
6. FC + ½ CF	16.09 abc	13,050 ab	12,558 a	9,172 a	13,310 ab	13,831 a	14,236 a	14,641 ab	12,529 a	15,394 a	8,796 a
7. CM + ½ CF	9.67 cd	8,796 b	12,095 ab	7,205 a	10,561 b	11,487 ab	12,471 a	11,921 b	10,764 a	13,947 a	8,767 a
8. BG + ½ CF	1.15 d	2,228 c	1,852 c	2,112 b	2,488 c	5,527 b	2,894 b	3,501 c	1,707 b	2,199 b	1,823 b
F-test	**	**	**	**	**	**	**	**	**	**	**
C.V. (%)	27.57	19.10	12.06	24.62	18.70	24.12	13.54	11.81	13.79	20.64	17.12

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 33 Tiller density in banding trial

Materials	Tiller density (tillers/hectare)							
	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	39,728 b	58,102 a	50,897	45,457 a	42,882 a	44,821 a	39,352 a	46,181 a
2. ½ CF	55,382 a	50,376 a	52,112	50,492 a	34,288 ab	44,039 a	44,358 a	48,495 a
3. CS_25 + ½ CF	52,459 ab	53,877 a	52,951	44,184 a	38,947 a	47,888 a	42,969 a	53,038 a
4. CS_50 + ½ CF	52,286 ab	49,797 a	53,154	44,068 a	37,095 ab	46,325 a	43,374 a	46,817 a
5. CS_75 + ½ CF	56,539 a	52,488 a	48,061	42,072 a	47,280 a	47,627 a	45,631 a	49,219 a
6. FC + ½ CF	56,192 a	52,199 a	55,035	46,644 a	48,872 a	47,569 a	46,846 a	53,009 a
7. CM + ½ CF	49,537 ab	44,907 a	44,850	42,477 a	47,483 a	41,667 a	40,220 a	53,675 a
8. BG + ½ CF	15,017 c	19,734 b	28,299	14,670 b	14,005 b	13,628 b	13,252 b	13,860 b
F-test	**	**	ns	**	**	**	**	**
C.V. (%)	14.85	14.60	24.92	15.53	28.04	10.19	8.74	8.46

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 34 Number of tiller per stool in banding trial

Materials	Number of tiller per stool (tiller/stool)									
	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	2.54	2.58	4.63 b	3.96 b	3.88 b	4.17 b	3.29 b	4.29 b	2.83 b	2.75 b
2. ½ CF	2.54	3.08	3.29 b	3.29 b	3.29 b	3.54 b	3.38 b	4.38 b	2.58 b	2.83 b
3. CS_25 + ½ CF	2.58	3.21	3.29 b	2.79 b	2.92 b	2.88 b	2.58 b	3.29 b	2.08 b	2.42 b
4. CS_50 + ½ CF	3.08	2.71	3.21 b	3.00 b	2.88 b	3.04 b	3.08 b	3.63 b	2.92 b	2.83 b
5. CS_75 + ½ CF	3.29	3.17	3.63 b	3.25 b	4.13 b	4.42 b	3.33 b	4.88 b	2.96 b	2.75 b
6. FC + ½ CF	2.63	2.67	3.46 b	3.08 b	3.08 b	3.17 b	3.08 b	3.50 b	2.75 b	2.71 b
7. CM + ½ CF	2.83	2.71	4.38 b	4.25 b	5.17 b	4.67 b	4.46 b	5.04 ab.	2.71 b	3.54 b
8. BG + ½ CF	3.17	3.67	7.17 a	9.88 a	9.86 a	9.22 a	8.20 a	7.53 a	9.42 a	8.14 a
F-test	ns	ns	**	**	**	**	**	**	**	**
C.V. (%)	18.17	18.54	21.58	23.68	43.11	30.83	29.11	27.33	36.37	28.25

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 35 Plant height in banding trial

Materials	Stalk height (cm)									
	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month	12 month
1. Control	17.71	42.08 bc	87.42 bc	142.42 bc	188.54 c	222.50 c	235.17 d	249.79 d	272.63 c	294.71 d
2. ½ CF	21.42	51.67 abc	116.17 a	157.50 ab	204.00 abc	236.13 bc	257.92 bcd	273.21 bcd	291.92 bcd	319.13 cd
3. CS_25 + ½ CF	18.58	46.58 abc	107.92 ab	159.42 ab	210.04 abc	242.42 bc	267.42 abc	276.54 bcd	295.75 bc	341.83 bcd
4. CS_50 + ½ CF	20.92	55.63 ab	117.08 a	170.08 a	215.50 abc	254.17 ab	268.00 abc	280.46 bc	299.71 bc	349.17 bc
5. CS_75 + ½ CF	22.21	60.17 a	127.25 a	177.08 a	227.42 ab	263.92 ab	283.92 ab	298.63 ab	315.54 ab	373.08 ab
6. FC + ½ CF	19.21	48.88 abc	127.88 a	178.17 a	230.42 a	274.79 a	295.75 a	309.75 a	328.92 a	402.38 a
7. CM + ½ CF	20.00	50.25 abc	122.13 a	168.42 a	224.17 ab	262.17 ab	283.63 ab	296.42 ab	316.33 ab	375.33 ab
8. BG + ½ CF	16.21	40.00 c	82.54 c	131.42 c	196.41 bc	225.96 c	245.12 cd	262.43 cd	278.53 c	321.53 cd
F-test	ns	*	**	**	**	**	**	**	**	**
C.V. (%)	16.12	16.79	9.50	6.17	6.87	5.19	5.23	4.73	4.49	6.83

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 36 Stalk length and stalk diameter in banding trial

Materials	Stalk length (cm)					Stalk diameter (cm)				
	8 month	9 month	10 month	11 month	12 month	8 month	9 month	10 month	11 month	12 month
1. Control	186.92 b	201.21 bc	212.96 b	228.54	225.92 bc	2.95	2.78	2.68	2.63	2.88 ab
2. ½ CF	210.63 ab	211.96 abc	217.00 b	236.08	239.79 ab	2.95	2.93	2.57	2.70	2.75 bc
3. CS_25 + ½ CF	208.13 ab	222.54 abc	228.83 ab	238.71	233.54 abc	2.95	2.85	2.81	2.68	2.86 abc
4. CS_50 + ½ CF	212.00 ab	237.92 ab	236.17 ab	258.58	254.29 ab	3.03	2.97	2.75	2.65	2.79 bc
5. CS_75 + ½ CF	233.54 a	247.29 a	252.46 a	255.25	245.33 ab	2.95	2.96	2.80	2.51	2.64 c
6. FC + ½ CF	236.58 a	249.29 a	261.58 a	264.08	261.46 a	3.00	3.08	2.73	2.66	2.77 bc
7. CM + ½ CF	228.50 a	230.71 abc	207.00 b	253.13	248.17 ab	3.24	3.02	2.79	2.83	2.87 abc
8. BG + ½ CF	182.25 b	187.54 c	213.63 b	207.38	210.50 c	3.22	2.98	2.94	2.95	3.03 a
F-test	**	**	*	ns	*	ns	ns	ns	ns	*
C.V. (%)	6.81	9.21	9.43	11.11	7.36	1.93	1.82	2.17	2.24	1.61

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 37 Stalk weight in banding trial

Materials	Stalk weight (kg)				
	8 month	9 month	10 month	11 month	12 month
1. Control	1.27	1.25 b	1.17	1.38	1.55
2. ½ CF	1.33	1.48 ab	1.33	1.44	1.38
3. CS_25 + ½ CF	1.33	1.46 ab	1.46	1.40	1.38
4. CS_50 + ½ CF	1.45	1.45 ab	1.41	1.50	1.33
5. CS_75 + ½ CF	1.42	1.48 ab	1.65	1.44	1.31
6. FC + ½ CF	1.49	1.69 a	1.49	1.50	1.53
7. CM + ½ CF	1.73	1.60 a	1.38	1.71	1.60
8. BG + ½ CF	1.48	1.48 ab	1.63	1.65	1.51
F-test	ns	**	ns	ns	ns
C.V. (%)	4.07	2.65	4.59	6.22	3.77

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 38 Brix and commercial cane sugar in late growth period in banding trial

Materials	Brix (degree)					Commercial cane sugar (C.C.S.)				
	8 month	9 month	10 month	11 month	12 month	8 month	9 month	10 month	11 month	12 month
1. Control	16.75	17.47	18.60 b	20.57 a	20.07	8.48	10.32	11.35	13.23	12.93
2. ½ CF	16.79	17.94	19.24 b	21.27 a	19.81	8.75	9.81	11.56	11.58	13.63
3. CS_25 + ½ CF	16.58	17.38	18.45 ab	20.70 a	19.39	7.73	9.81	11.52	11.64	13.59
4. CS_50 + ½ CF	16.58	16.57	17.54 ab	20.90 a	20.26	8.60	9.92	11.27	11.48	12.86
5. CS_75 + ½ CF	16.38	16.55	18.70 a	20.55 a	19.58	8.52	9.97	11.23	12.00	13.49
6. FC + ½ CF	15.92	16.68	17.74 a	20.15 ab	18.90	8.26	10.21	11.40	10.98	13.22
7. CM + ½ CF	16.80	17.23	18.25 b	20.81 a	19.34	8.29	9.84	11.45	12.89	13.02
8. BG + ½ CF	16.33	16.32	17.98 b	19.11 b	19.04	8.67	9.74	11.34	11.84	13.25
F-test	ns	ns	*	*	ns	ns	ns	ns	ns	ns
C.V. (%)	5.10	4.97	3.68	3.86	4.88	6.30	7.00	5.34	11.28	6.36

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 39 Ratoon establishment in broadcast and banding trial

Treatment	Broadcast trial emergence density (tiller ha^{-1})	Banding trial emergence density (tiller ha^{-1})
1. Control	49,900 d	29,913
2. CF	66,400 bcd	28,304
3. CS_25 + CF	75,150 abc	35,674
4. CS_50 + CF	64,850 bcd	33,043
5. CS_75 + CF	56,250 cd	47,304
6. FC + CF	75,200 abc	40,413
7. CM + CF	89,650 ab	30,283
8. BG + CF	96,350 a	20,630
F-test	**	ns
C.V. (%)	35.31	34.40

** significant at 1% level

* significant at 5% level

ns not significant at 5% level

Means in the same letter are not significantly different at P<0.05 by DMRT

Appendix 40 Relationship between physical soil properties in broadcast trial

	BD	MWD	Degree of aggregation	Aggregate stability	% Moisture	%sand	%silt	%clay
BD	1	0.10	-0.06	0.16	-0.60**	0.17	-0.13	-0.20
MWD	0.10	1	0.91**	0.19	0.25	-0.22	0.16	0.28
Degree of aggregation	-0.06	0.91	1	0.02	0.36*	-0.36	0.27	0.43
Aggregate stability	0.16	0.19	0.02	1	-0.12	-0.03	0.01	0.05
% Moisture	-0.60**	0.25	0.36*	-0.12	1	-0.07	0.07	0.05
%sand	0.17	-0.22	0.36*	-0.03	-0.07	1	-0.96**	-0.92**
%silt	-0.13	0.16	0.27	0.01	0.07	-0.96**	1	0.77**
%clay	-0.20	0.28	0.43*	0.05	0.05	-0.92**	0.77**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 41 Correlation coefficient of physical soil properties and growth parameters in broadcast trial

	Germination	Stool density	Tiller density	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	Pol	Fibre	Purity	Millable cane	Cane yield	Sugar yield
BD	0.12	-0.48**	-0.56**	0.16	-0.45**	-0.46**	-0.21	-0.31	0.24	0.19	0.01	-0.33	-0.14	-0.48	-0.47	-0.41
MWD	0.27	0.28	-0.17	0.06	0.12	0.06	-0.26	0.08	0.18	0.40*	0.22	-0.21	0.26	-0.03	0.11	0.18
Degree	0.24	0.23	-0.15	-0.06	0.07	0.06	-0.26	0.09	0.09	0.38*	0.23	-0.17	0.26	0.00	0.10	0.17
AS	0.26	0.30	0.26	0.40*	0.02	0.10	0.03	0.15	0.11	0.20	-0.02	-0.22	0.17	0.27	0.06	0.09
Mois	0.18	0.41*	0.32	-0.31	0.42*	0.22	0.16	0.23	-0.01	0.04	0.12	0.25	0.35*	0.25	0.33	0.32
%sand	0.07	-0.15	-0.18	-0.15	-0.16	-0.13	-0.16	-0.24	0.33	0.06	0.12	0.11	0.13	-0.17	-0.11	-0.10
%silt	-0.10	0.15	0.13	0.15	0.17	0.13	0.13	0.17	-0.30	-0.11	-0.14	-0.06	-0.15	0.11	0.13	0.11
%clay	-0.01	0.13	0.23	0.13	0.13	0.11	0.17	0.30	-0.32	0.03	-0.07	-0.16	-0.09	0.22	0.06	0.07

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 42 Correlation coefficient of chemical soil properties in broadcast trial

	pH	EC	OM	P	K	Ca	Mg	CEC
pH	1	-0.40*	-0.03	-0.31	-0.12	0.50**	0.37*	0.23
EC	-0.40*	1	0.58**	0.47**	0.34	0.01	0.27	0.15
OM	-0.03	0.58**	1	0.61**	0.42*	0.30	0.49**	0.51**
P	-0.31	0.47**	0.61**	1	0.27	0.01	0.24	0.21
K	-0.12	0.34	0.42*	0.27	1	0.02	0.41*	0.19
Ca	0.50**	0.01	0.30	0.01	0.02	1	0.23	0.35*
Mg	0.37*	0.27	0.49**	0.24	0.41*	0.23	1	0.62**
CEC	0.23	0.15	0.51**	0.21	0.19	0.35*	0.62**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 43 Correlation coefficient of chemical soil properties and growth parameters in broadcast trial

	Germination	Stool density	Tiller density	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	Pol	Fibre	Purity	Millable cane	Cane yield	Sugar yield
pH	0.15	0.25	0.11	0.01	0.13	0.35*	0.11	0.26	-0.07	0.07	0.14	0.13	0.18	0.03	0.05	0.06
EC	0.01	-0.13	0.36*	0.21	0.27	-0.01	-0.02	0.26	-0.07	0.11	-0.03	0.01	0.36*	0.39*	0.37*	0.37*
OM	-0.18	0.17	0.62**	0.33	0.43**	0.30	0.28	0.50**	-0.38*	-0.13	-0.34	-0.06	0.19	0.65**	0.49**	0.44*
P	-0.42*	-0.31	0.25	0.56**	0.40*	0.15	0.17	0.17	-0.32	-0.03	-0.29	-0.22	0.05	0.38*	0.38*	0.35*
K	0.00	-0.08	0.06	0.00	-0.10	0.20	0.16	0.35*	-0.27	-0.35*	-0.34	0.06	-0.20	0.04	0.00	-0.06
Ca	0.18	0.49**	0.21	0.18	0.26	0.36*	0.04	0.16	-0.04	0.11	0.04	0.08	0.35*	0.24	0.17	0.17
Mg	-0.06	0.08	0.42*	0.36*	0.16	0.32	0.42*	0.62**	-0.35*	-0.12	-0.27	-0.17	-0.13	0.28	0.27	0.23
CEC	-0.04	0.37*	0.26	0.21	0.06	0.08	0.15	0.14	-0.13	-0.13	-0.27	-0.11	-0.05	0.21	0.15	0.11

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 44 Correlation coefficient of growth parameters in broadcast trial

	Ger	Stool den.	Tiller den.	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS
Germinate	1	0.28	-0.09	-0.34	0.04	0.10	-0.20	0.08	0.52**	0.34
Stool den.	0.28	1	0.22	-0.10	0.22	0.25	0.11	0.19	-0.01	-0.04
Tiller den.	-0.09	0.22	1	0.19	0.58**	0.31	0.49**	0.53**	-0.41*	-0.06
Tiller/stool	-0.34	-0.10	0.19	1	0.21	0.29	0.26	0.32	-0.12	0.02
Height	0.04	0.22	0.58**	0.21	1	0.62**	0.22	0.51**	-0.16	0.16
Length	0.10	0.25	0.31	0.29	0.62**	1	0.34	0.74**	0.03	-0.05
Diameter	-0.20	0.11	0.49**	0.26	0.22	0.34	1	0.61**	-0.26	-0.26
Weight	0.08	0.19	0.53**	0.32	0.51**	0.74**	0.61**	1	-0.24	-0.20
Brix	0.52**	-0.01	-0.41*	-0.12	-0.16	0.03	-0.26	-0.24	1	0.34
CCS	0.34	-0.04	-0.06	0.02	0.16	-0.05	-0.26	-0.20	0.34	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 45 Correlation coefficient of biochemical parameter in broadcast trial

	BRIX	POL	FIBRE	PURITY	Sugar yield
BRIX	1	0.64**	0.26	-0.45**	-0.28
POL	0.64**	1	0.31	0.40*	0.11
FIBRE	0.26	0.31	1.0	0.04	-0.14
PURITY	-0.45**	0.40*	0.04	1	0.46**
Sugar yield	-0.28	0.11	-0.14	0.46**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 46 Correlation coefficient of plant nutrient concentrations in broadcast trial

	N_PLANT	P_PLANT	K_PLANT	Ca_PLANT	Mg_PLANT
N_PLANT	1	0.23	-0.22	0.22	0.03
P_PLANT	0.23	1	-0.36*	0.14	0.13
K_PLANT	-0.22	-0.36*	1	0.41*	-0.28
Ca_PLANT	0.22	0.14	0.41*	1	0.46**
Mg_PLANT	0.03	0.13	-0.28	0.46**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 47 Correlation coefficient of plant nutrient concentrations and soil properties in broadcast trial

	pH	EC	OM	P	K	Ca	Mg	CEC	N_PLANT	P_PLANT	K_PLANT	Ca_PLANT
pH	1	-0.40*	-0.03	-0.31	-0.12	0.50**	0.37*	0.23	0.16	-0.11	-0.50**	0.13
EC	-0.40*	1	0.58**	0.47**	0.34	0.01	0.27	0.15	0.19	0.21	-0.01	0.41*
OM	-0.03	0.58**	1	0.61**	0.42*	0.30	0.48**	0.51**	0.32	0.46**	-0.22	0.35
P	-0.31	0.47**	0.61**	1	0.27	0.01	0.24	0.21	0.02	0.67**	-0.20	0.23
K	-0.12	0.34	0.42*	0.27	1	0.02	0.41*	0.19	0.10	0.05	0.18	0.03
Ca	0.50**	0.01	0.30	0.01	0.02	1	0.23	0.35*	0.12	0.06	-0.44*	0.37*
Mg	0.37*	0.27	0.48**	0.24	0.41*	0.23	1	0.62**	0.28	0.21	-0.48**	0.38*
CEC	0.23	0.15	0.51**	0.21	0.19	0.35*	0.62**	1	0.07	0.11	-0.39*	0.20
N_PLANT	0.16	0.19	0.32	0.02	0.10	0.12	0.28	0.07	1	0.23	-0.22	0.22
P_PLANT	-0.11	0.21	0.46**	0.67**	0.05	0.06	0.21	0.11	0.23	1	-0.36*	0.14
K_PLANT	0.50**	-0.01	-0.22	-0.20	0.18	-0.44*	-0.48**	-0.39*	-0.22	-0.36*	1	-0.41*
Ca_PLANT	0.13	0.41*	0.35	0.23	0.03	0.37*	0.38*	0.20	0.22	0.14	-0.41*	1
Mg_PLANT	0.16	0.27	0.55**	0.23	-0.02	0.56**	0.13	0.43*	0.03	0.13	-0.28	0.46**

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 48 Relationship between plant nutrient concentrations and growth parameters in broadcast trial

	Germinate	Stool den.	Tiller den.	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	POL	FIBRE	PURITY	Mill cane	Cane yield	Sugar yield
N_PLANT	0.09	0.17	0.03	0.28	0.14	0.29	0.09	0.46**	-0.05	0.17	0.00	-0.13	0.18	0.11	0.16	0.19
P_PLANT	-0.13	-0.17	0.26	0.33	0.31	0.02	0.05	0.05	-0.25	0.20	-0.11	-0.34	0.11	0.41*	0.37*	0.39*
K_PLANT	-0.17	-0.15	-0.36*	-0.47**	-0.37*	-0.44**	-0.26	-0.36*	-0.08	-0.30	-0.08	0.21	-0.25	-0.40*	-0.42*	-0.46**
CA_PLANT	0.09	0.31	0.51**	0.16	0.67**	0.52**	0.35*	0.53**	-0.02	-0.01	0.10	0.28	0.30	0.50**	0.56**	0.53**
MG_PLANT	0.01	0.41**	0.57**	0.14	0.48**	0.28	0.25	0.20	-0.09	0.01	-0.04	0.17	0.43**	0.58**	0.49**	0.46**

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 49 Correlation coefficient of physical soil properties in banding trial

	BD	MWD	Degree of aggregation	Aggregate stability	% Moisture	%sand	%silt	%clay
BD	1	0.15	0.12	-0.02	-0.10	-0.22	0.24	0.20
MWD	0.15	1	0.80**	0.29	0.08	-0.31	0.39*	0.21
Degree of aggregation	0.12	0.80**	1	0.04	0.27	-0.26	0.31	0.18
Aggregate stability	-0.02	0.29	0.04	1	-0.24	-0.14	0.14	0.12
% Moisture	-0.10	0.08	0.27	-0.24	1	-0.32	0.32	0.31
%sand	-0.22	-0.31	-0.26	-0.14	-0.32	1	-0.97**	-0.97**
%silt	0.24	0.39*	0.31	0.14	0.32	-0.97**	1	0.88**
%clay	0.20	0.21	0.18	0.12	0.31	-0.97**	0.88**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 50 Relationship between physical soil properties and growth parameters in banding trial

	Germination	Stool density	Tiller density	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	Pol	Fibre	Purity	Millable cane	Cane yield	Sugar yield
BD	0.12	0.10	0.08	-0.04	0.01	-0.01	-0.05	0.21	-0.07	-0.27	-0.16	0.17	-0.23	0.09	-0.01	-0.06
MWD	-0.22	-0.40*	-0.13	0.27	0.26	0.04	-0.18	-0.10	-0.18	0.10	0.07	0.02	0.14	-0.18	-0.08	-0.05
Degree	-0.28	-0.38*	-0.20	0.20	0.26	0.17	-0.16	-0.04	-0.12	0.02	0.09	0.16	0.09	-0.22	-0.10	-0.10
State	-0.25	-0.43**	-0.44**	0.32	-0.02	-0.26	0.21	-0.04	-0.05	0.07	-0.10	-0.13	0.17	-0.38**	-0.41**	-0.36**
Mois	-0.30	-0.15	-0.07	0.08	0.08	-0.02	0.26	0.32	-0.01	0.23	0.23	0.09	0.29	-0.24	-0.01	0.05
%sand	0.37*	0.38*	0.34	-0.45**	0.06	0.33	-0.21	-0.08	0.19	-0.35*	-0.21	0.21	-0.31	0.36*	0.30	0.22
%silt	-0.31	-0.34	-0.27	0.39*	-0.08	-0.28	0.11	0.03	-0.21	0.41*	0.26	-0.23	0.39*	-0.29	-0.24	-0.14
%clay	-0.41*	-0.39*	-0.39*	0.49**	-0.05	-0.36*	0.30	0.13	-0.15	0.26	0.15	-0.18	0.21	-0.41*	-0.35*	-0.29

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 51 Correlation coefficient of chemical soil properties in banding trial

	pH	EC	OM	P	K	Ca	Mg	CEC
pH	1	0.17	0.04	-0.02	-0.09	0.85**	0.50**	0.72**
EC	0.17	1	0.40*	0.23	0.64**	0.30	0.35	0.20
OM	0.04	0.40*	1	0.55**	0.26	0.24	0.04	0.37*
P	-0.02	0.23	0.55**	1	0.18	-0.03	0.22	-0.02
K	-0.09	0.64**	0.26	0.18	1	-0.12	0.32	0.15
Ca	0.85**	0.30	0.24	-0.03	-0.12	1	0.36*	0.67**
Mg	0.50**	0.35	0.04	0.22	0.32	0.36*	1	0.21

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 52 Correlation coefficient of plant nutrient concentration and chemical soil properties in banding trial

	OM	P	K	Ca	Mg	CEC	EC	pH	N_PLANT	P_PLANT	K_PLANT	CA_PLANT	Mg_PLANT
OM	1	0.55**	0.26	0.24	0.04	0.37*	0.40*	0.04	0.15	0.28	-0.10	0.23	0.34
P	0.55**	1	0.18	-0.03	0.22	-0.02	0.23	-0.02	0.42*	0.43*	0.00	0.36*	0.41*
K	0.26	0.18	1	-0.12	0.32	0.15	0.64**	-0.09	0.36*	0.38*	0.24	-0.08	0.06
Ca	0.24	-0.03	-0.12	1	0.36*	0.67**	0.30	0.85**	-0.32	0.29	-0.06	0.22	0.14
Mg	0.04	0.22	0.32	0.36*	1	0.21	0.35	0.50**	0.01	0.12	0.11	0.30	-0.09
CEC	0.37*	-0.02	0.15	0.67**	0.21	1	0.20	0.72**	-0.22	0.35	-0.11	0.12	0.28
EC	0.40*	0.23	0.64**	0.30	0.35	0.20	1	0.17	0.24	0.43*	0.04	0.00	-0.09
pH	0.04	-0.02	-0.09	0.85**	0.50**	0.72**	0.17	1	-0.35*	0.21	-0.06	0.25	0.20
N_PLANT	0.15	0.42*	0.36*	-0.32	0.01	-0.22	0.24	-0.35*	1	0.38*	0.20	0.13	0.34
P_PLANT	0.28	0.43*	0.38*	0.29	0.12	0.35	0.43*	0.21	0.38*	1	0.25	0.19	0.40*
K_PLANT	-0.10	0.00	0.24	-0.06	0.11	-0.11	0.04	-0.06	0.20	0.25	1	0.32	0.17
CA_PLANT	0.23	0.36*	-0.08	0.22	0.30	0.12	0.00	0.25	0.13	0.19	0.32	1	0.09
Mg_PLANT	0.34	0.41*	0.06	0.14	-0.09	0.28	-0.09	0.20	0.34	0.40*	0.17	0.09	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 53 Correlation coefficient of growth parameters in banding trial

	Germinate	Stool den.	Tiller den.	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	Mill cane	Cane yield	Sugar yield
Germinate	1	0.77**	0.62**	-0.68**	0.01	0.34	-0.42*	-0.44*	0.31	0.09	0.81**	0.62**	0.61**
Stool den.	0.77**	1	0.78**	-0.81**	0.04	0.39*	-0.26	-0.13	0.28	0.15	0.82**	0.75**	0.74**
Tiller den.	0.62**	0.78**	1	-0.79**	0.32	0.54**	-0.41*	-0.10	0.18	0.09	0.89**	0.91**	0.89**
Tiller/stool	-0.68**	-0.81**	-0.79**	1	-0.21	-0.43*	0.42*	0.19	-0.11	-0.08	-0.84**	-0.74**	-0.72**
Height	0.01	0.04	0.32	-0.21	1	0.50**	-0.34	0.04	-0.30	0.04	0.28	0.48**	0.46**
Length	0.34	0.39*	0.54**	-0.43*	0.50**	1	-0.30	0.11	-0.02	-0.06	0.57**	0.71**	0.65**
Diameter	-0.42*	-0.26	-0.41*	0.42*	-0.34	-0.30	1	0.67**	-0.09	-0.13	-0.54**	-0.42*	-0.43*
Weight	-0.44*	-0.13	-0.10	0.19	0.04	0.11	0.67**	1	-0.24	-0.17	-0.31	-0.09	-0.12
Brix	0.31	0.28	0.18	-0.11	-0.30	-0.02	-0.09	-0.24	1	0.01	0.23	0.16	0.15
CCS	0.09	0.15	0.09	-0.08	0.04	-0.06	-0.13	-0.17	0.01	1	0.07	0.15	0.35
Mill cane	0.81**	0.82**	0.89**	-0.84**	0.28	0.57**	-0.54**	-0.31	0.23	0.07	1	0.89**	0.86**
Cane yield	0.62**	0.75**	0.91**	-0.74**	0.48**	0.71**	-0.42*	-0.09	0.16	0.15	0.89**	1	0.98**
Sugar yield	0.61**	0.74**	0.89**	-0.72**	0.46**	0.65**	-0.43*	-0.12	0.15	0.35	0.86**	0.98**	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 54 Correlation coefficient of biological parameters in banding trial

	Sugar yield	BRIX	POL	FIBRE	PURITY
Sugar yield	1	0.07	0.28	-0.25	0.18
BRIX	0.07	1	0.38*	0.13	-0.61**
POL	0.28	0.38*	1	0.01	0.50**
FIBRE	-0.25	0.13	0.01	1	-0.11
PURITY	0.18	-0.61**	0.50**	-0.11	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 55 Correlation coefficient of plant nutrient concentration in banding trial

	N_PLANT	P_PLANT	K_PLANT	Ca_PLANT	Mg_PLANT
N_PLANT	1	0.38*	0.20	0.13	0.34
P_PLANT	0.38*	1	0.25	0.19	0.40*
K_PLANT	0.20	0.25	1	0.32	0.17
Ca_PLANT	0.13	0.19	0.32	1	0.09
Mg_PLANT	0.34	0.40*	0.17	0.09	1

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 56 Relationship between chemical soil properties and growth parameters in banding trial

	Germination	Stool density	Tiller density	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	Pol	Fibre	Purity	Millable cane	Cane yield	Sugar yield
pH	0.10	-0.07	0.06	0.08	0.20	0.04	-0.24	-0.31	0.06	0.20	0.10	-0.26	0.19	0.13	0.10	0.15
EC	-0.29	-0.17	0.12	0.00	0.45**	0.05	-0.16	0.11	-0.33	0.09	-0.09	-0.33	0.18	-0.07	0.15	0.18
OM	-0.10	-0.25	-0.11	0.00	0.40*	0.06	-0.08	-0.14	-0.27	0.16	0.02	-0.14	0.26	-0.07	0.06	0.09
P	-0.15	-0.20	0.06	0.03	0.63**	0.36*	-0.08	0.21	-0.36*	-0.09	-0.04	-0.13	0.05	0.05	0.25	0.24
K	-0.47**	-0.41*	-0.20	0.38*	0.33	-0.12	0.14	0.18	-0.25	0.18	-0.34	-0.35*	-0.08	-0.40*	-0.14	-0.14
Ca	0.15	0.00	0.20	-0.16	0.17	0.06	-0.27	-0.29	0.05	0.19	0.03	-0.22	0.20	0.24	0.21	0.25
Mg	-0.34	-0.31	-0.09	0.39*	0.06	-0.26	0.24	0.23	-0.18	0.06	-0.02	-0.36*	0.09	-0.25	-0.12	-0.08
CEC	0.05	-0.17	-0.16	0.07	0.27	0.01	-0.04	-0.31	-0.09	0.26	-0.09	-0.24	0.11	-0.04	-0.07	-0.04

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Appendix 57 Relationship between plant nutrient concentration and growth parameters in banding trial

	Germinate	Stool den.	Tiller den.	Tiller/stool	Height	Length	Diameter	Weight	Brix	CCS	POL	FIBRE	PURITY	Mill cane	Cane yield	Sugar yield
N_PLANT	-0.32	-0.30	-0.13	0.28	0.26	0.23	0.07	0.34	-0.48**	-0.11	-0.30	-0.34	-0.17	-0.28	-0.11	-0.12
P_PLANT	0.20	0.23	0.51**	-0.35	0.75**	0.54**	-0.19	0.04	-0.28	-0.05	-0.30	-0.39*	-0.06	0.39*	0.59**	0.55**
K_PLANT	-0.07	0.16	0.08	-0.06	0.07	0.12	-0.05	0.07	-0.08	0.04	-0.10	-0.22	0.02	0.03	0.19	0.20
CA_PLANT	-0.12	-0.12	0.00	0.03	0.31	0.30	0.02	0.22	-0.32	0.17	0.13	-0.14	0.04	0.07	0.17	0.18
MG_PLANT	0.14	-0.07	0.01	0.04	0.43**	0.35*	-0.29	-0.25	-0.20	-0.06	-0.14	-0.02	0.03	0.13	0.16	0.14

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

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1. Tangkoonboribun, R., Ruaysoongnern, S., Vityakon R.P., and Tumsan, B. (2004, November 29-December 2). Sugar industry in Thailand. In: **Sustainable sugarcane and sugar production technology**. Proceedings of the International Symposium on Sustainable Sugarcane and Sugar Production Technology. (pp. 93-95). Beijing: China Agriculture Press.
2 Tangkoonboribun, R., Ruaysoongnern, S., Vityakon R.P., and Tumsan, B. (2004, November 29-December 2). Effect of organic materials and clay soil amelioration in degraded sandy soil on sugarcane growth. In: **Sustainable sugarcane and sugar production technology**. Proceedings of the International Symposium on Sustainable Sugarcane and Sugar Production Technology. (pp. 180-185). Beijing: China Agriculture Press.
3. Tangkoonboribun, R., Ruaysoongnern, S., Vityakon R.P., and Tumsan, B. (2006, January). Effect of organic materials and clay soil amelioration on physical soil properties of degraded sandy soil for sugarcane production. In: **Abstracts of KKU annual agricultural seminar for year 2006**. Paper presented at the KKU annual agricultural seminar for year 2006. Khon Kaen, Thailand: KKU.
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