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Yields of the Field Experiments 2012

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Results of the
Classical and other
Long-term Experiments
2012

R/BK/1 Broadbalk

Rothamsted Research

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12/R/BK/1

BROADBALK

Object: To study the effects of organic manures and inorganic fertilisers on continuous w. wheat and wheat in rotation. From 1968 two three-year rotations were included: potatoes, beans, w. wheat and fallow, w. wheat, w. wheat. In 1979 the first rotation was changed to fallow, potatoes, w. wheat. In 1980 the second rotation reverted to continuous w. wheat. Since 1985 part of the second rotation was added to the first to extend the rotation to fallow, potatoes, w. wheat, w. wheat, w. wheat. In 1996 the fallow was replaced by w. oats and potatoes replaced by maize in 1997.

The 169th year, w. wheat, w. oats and forage maize.

For previous years see 'Details' 1967 and 1973, Station Report for 1966, pp. 229-231; Station Report for 1968, Part 2; Station Report for 1982, Part 2, pp 5-44 and Yield Books for 74-11/R/BK/1.

Areas harvested^a:

Wheat:	Section	
	0	0.00320
	1	0.00589
	5,4,6 and 7	0.00487
	8,9	0.00512
Oats:	2	0.00487
Maize:	3	0.00162

^aHarvest areas in the 2007-2010 yield books were incorrectly assigned, but yields were correct.

Treatments:

In 2001 a number of the treatments were changed. The treatments are now:-

Whole plots

PLOT	Fertilizers and organic manures	
	Plot	From 2001
01 (FYM)N4	01	N4
21FYMN3	2.1	FYM N2 ⁽¹⁾
22FYM	2.2	FYM
03Nil	03	None
05(P)KMg	05	(P) K Mg
06N1 (P) KMg	06	N1 (P) K Mg
07N2(P)KMg	07	N2 (P) K Mg
08N3(P)KMg	08	N3 (P) K Mg
09N4(P)KMg	09	N4 (P) K Mg
10N4	10	N4
11N4PMg	11	N4 P Mg
12N1+3+1(P)K2Mg2	12	N1+3+1 (P) K2 Mg2 ⁽²⁾
13N4PK	13	N4 P K
14N4PK*(Mg*)	14	N4 P K* (Mg*)
15N5(P)KMg	15	N5 (P) K Mg
16N6(P)KMg	16	N6 (P) K Mg
17N1+4+1PKMg	17	N1+4+1 P K Mg
18N1+2+1PKMg	18	N1+2+1 P K Mg
19N1+1+1KMg	19	N1+1+1 K Mg
20N4KMg	20	N4 K Mg

12/R/BK/1

- (1) FYM N3 since 2005
- (2) N1+3+1 (P) KMg since 2006

W. oats; Nitrogen and farmyard manure were not applied.

N1, N2, N3, N4, N5, N6: 48, 96, 144, 192, 240, 288 kg N as 33.5% N; to be applied at the same time as the second dressings in the split nitrogen plots for wheat and to the seedbed for forage maize.

Split N to wheat

N1+1+1, 1+2+1 etc: Rates as above. Timings: first two weeks of March, GS31 or mid-April (whichever comes first) and GS37/mid-May.

Split N to forage maize

N2+1, 2+2, 2+3,2+4: Rates as above. Timings: to the seedbed and post-emergence.
 P: 35 kg P as triple superphosphate
 (P): (none), to be reviewed in 2015/16.
 K: 90 kg K as potassium sulphate.
 K2: 180 kg K as potassium sulphate (plus 450 kg K autumn 2000 only)
 K*: 90 kg K as potassium chloride
 Mg: 12 kg Mg as kieserite.
 Mg2: 24 kg Mg as kieserite.(plus 60kg Mg, autumn 2000 only).
 (Mg*): (none), to be reviewed in 2015/16
 FYM: Farmyard manure at 35 t

Previous treatment:-

Whole plots

PLOT	Plot	Fertilizers and organic manures:-		
		Treatments until 1967	Treatments from 1968	Treatments from 1985 – 2000
01DN4PK	01	-	D N2 P K	D N4 P K
21DN2	21	D	D N2	D N2
22D	22	D	D	D
030	03	None	None	None
05F	05	P K Na Mg	P K (Na) Mg	PK Mg
06N1F	06	N1 P K Na Mg	N1 P K (Na) Mg	N1 P K Mg
07N2F	07	N2 P K Na Mg	N2 P K (Na) Mg	N2 P K Mg
08N3F	08	N3 P K Na Mg	N3 P K (Na) Mg	N3 P K Mg
09N4F	09	N*1 P K Na Mg	N4 P K (Na) Mg	N4 P K Mg
10N2	10	N2	N2	N2
11N2P	11	N2 P	N2 P	N2 P
12N2PNA	12	N2 P Na	N2 P Na	N2 P Na
13N2PK	13	N2 P K	N2 P K	N2 P K
14N2PKMG	14	N2 P Mg	N2 P K Mg	N2 P K Mg
15N5F	15	N2 P K Na Mg	N3 P K (Na) Mg	N5 P K Mg
16N6F	16	N*2 P K Na Mg	N2 P K (Na) Mg	N6 P K Mg
17N1+3FH	17	N2 (A)	N2 ½[P K (Na) Mg]	N1+3 ½[P K Mg] (A)+
18N0+3FH	18	P K Na Mg (A)	N2 ½[P K (Na) Mg]	N0+3 ½[P K Mg] (A)+
19(C)	19	C	C	(C) (since 1989)
20N2KMG	20	N2 K Na Mg	N2 K (Na) Mg	N2 K Mg

(A) Alternating each year

+ This change since 1980. Treatments shown are those to w.wheat; autumn N alternates. Maize received N3 ½[PK Mg] on both plots 17 and 18. These treatments shown incorrectly in 1999-2002 Yield books.

W. oats; Nitrogen and dung were not applied.

- N1, N2, N3, N4, N5, N6: 48, 96, 144, 192, 240, 288 kg N as sulphate of ammonia until 1967, except N* which was nitrate of soda. All as 'Nitro-Chalk' in spring from 1968 to 1985, as 34.5% N since 1986.
- N0+3; N1+3: None in autumn + 144 kg N in spring; 48 kg N in autumn + 144 kg N in spring.
- P: 35 kg P as triple superphosphate in 1974 and since 1988, single superphosphate in other years
- K: 90 kg K as sulphate of potash
- Na: 55 kg Na as sulphate of soda
- (Na): 16 kg Na as sulphate of soda until 1973
- Mg: 30kg Mg annually to Plot 14 (applied at 26 kg 1990 to 2000), 35 kg Mg every third year to other plots since 1974 (applied at 30 kg in 1991, 1994, 1997 and 2000 and at 15 kg on half rate treatments). All as kieserite since 1974, previously as sulphate of magnesia annually.
- D: Farmyard manure at 35 t
- (C): Castor meal to supply 96 kg N until 1988, none since
- F: Full rate P K (Na) Mg as above
- H: Half rate of above.

Strips of sub-plots: Until 1967 wheat alone was grown on the experiment, with some bare fallowing. From 1968, the experiment was divided into 10 sections with the following cropping:-

SECTION

Section	1	9	0*	8+	6**	5	3	7	4	2
Year										
1968	W	W	W	W	F	W	W	P	W	BE
1969	W	W	W	W	W	F	W	BE	P	W
1970	W	W	W	W	W	W	F	W	BE	P
1971	W	W	W	W	F	W	W	P	W	BE
1972	W	W	W	F	W	F	W	BE	P	W
1973	W	W	W	W	W	W	F	W	BE	P
1974	W	W	W	W	F	W	W	P	W	BE
1975	W	W	W	W	W	F	W	BE	P	W
1976	W	W	W	W	W	W	F	W	BE	P
1977	W	W	W	W	F	W	W	P	W	BE
1978	W	W	W	W	W	F	W	BE	P	W
1979	W	W	W	W	W	W	F	W	P	F
1980	W	W	W	W	W	W	W	F	W	P
1981	W	W	W	F	W	W	W	P	F	W
1982	W	W	W	W	W	W	W	W	P	F
1983	W	W	W	W	W	W	W	F	W	P
1984	W	W	W	W	W	W	W	P	F	W
1985	W	W	W	W	W	F	W	W	P	W
1986	W	W	W	W	W	P	F	W	W	W
1987	W	W	W	W	W	W	P	W	W	F
1988	W	W	W	F	W	W	W	F	W	P
1989	W	W	W	W	W	W	W	P	F	W

Section	1	9	0*	8+	6**	5	3	7	4	2
Year										
1990	W	W	W	W	W	F	W	W	P	W
1991	W	W	W	W	W	P	F	W	W	W
1992	W	W	W	W	W	W	P	W	W	F
1993	W	W	W	W	W	W	W	F	W	P
1994	W	W	W	F	W	W	W	P	F	W
1995	W	W	W	W	W	F	W	W	P	W
1996	W	W	W	W	W	P	O	W	W	W
1997	W	W	W	W	W	W	M	W	W	O
1998	W	W	W	W	W	W	W	O	W	M
1999	W	W	W	W	W	W	W	M	O	W
2000	W	W	W	W	W	O	W	W	M	W
2001	W	W	W	F	W	M	O	W	W	W
2002	W	W	W	W	W	W	M	W	W	O
2003	W	W	F	W	W	W	W	O	W	M
2004	W	W	F	W	W	W	W	M	O	W
2005	W	W	W	W	W	O	W	W	M	W
2006	W	W	W	W	W	M	O	W	W	W
2007	W	W	W	W	W	W	M	W	W	O
2008	W	W	W	F	W	W	W	O	W	M
2009	W	W	W	W	W	W	W	M	O	W
2010	W	W	W	W	W	O	W	W	M	W
2011	W	W	W	W	W	M	O	W	W	W
2012	W	W	W	W	W	W	M	W	W	O

W = w. wheat, O = w. oats (spring oats 2001), P = potatoes, BE = s. beans, F = fallow, M = forage maize

* Straw incorporated since autumn 1986. ** No sprays except weedkillers since 1985.

+ No weedkillers.

NOTES:

- (1) For a fuller record of treatments see 'Details' etc.
- (2) From autumn 1975 to autumn 1986, chalk was applied at 2.9t each autumn to all plots in sets of Sections on a three-year cycle. Year 1: Sections 1, 2, 3. Year 2: Sections 6, 7, 8, 9. Year 3: Sections 0, 4, 5. From autumn 1988 until autumn 1992 a five-year cycle was used. Year 1: Sections 1, 3. Year 2: Sections 2, 8. Year 3: Sections 7, 9. Year 4: Sections 4, 6. Year 5: Sections 0, 5 (omitted). No chalk was applied after autumn 1991 until autumn 2007 when differential amounts were applied to selected plots (see "Results 2008").
- (3) In 2003 and 2004 section 0 was used for an experiment (CS/595) investigating different herbicides to control *Equisetum arvense*.

12/R/BK/1

Experimental Diary:

All Sections

Date		Application	Rate	Units
31-Aug-11	p	Sprayed Weedazol - water volume = 200 lt/ha (Sprayed to control equestum prior to primary cultivations)	20	l/ha
27-Sep-11	f	Applied Muriate of Potash Plots 140-149	181	kg/ha
27-Sep-11	f	Applied Triple Super Phosphate - plots 170-189 + 130-149 + 110-119	171	kg/ha
28-Sep-11	a	Applied FYM - to strip 2.1 +2.2 (not section 2 oats)	35	t/ha
01-Oct-11	a	Ploughed – soil thrown Northward	-	
03-Oct-11	a	Cutlipressed	-	
13-Oct-11	p	Sprayed Liberator - sections 0, 1, 4, 5, 6, 7 and 9 only. Plots 012 and 2.12 sprayed by accident. 200 lt/ha water volume.	0.6	l/ha
23-Nov-11	p	Sprayed Seal Z - all sections apart from section 3 sprayed. 200 lt/ha water volume.	50	ml/ha
01-Dec-11	p	Sprayed Lexus class - section 2 only. 200 lt/ha water volume.	60	g/ha
05-Dec-11	a	Cut Hedges - road side only	-	
10-Apr-12	a	Rotovated fallow areas	-	
20-Apr-12	p	Sprayed Platform - all sections except section 3 sv 200lt/ha	1	kg/ha
17-May-12	a	Cut Paths	-	
18-May-12	a	Cut Paths	-	
28-May-12	a	Topped Paths	-	
14-Jun-12	a	Cut paths	-	
14-Jun-12	a	Rotavated paths - to wet to finish	-	
20-Jun-12	a	Cut Paths	-	
20-Jun-12	a	Rotavated Paths	-	
02-Jul-12	a	Rotavated Fallows	-	
02-Jul-12	a	Replaced marker posts	-	
05-Jul-12	a	Paths Cut	-	
30-Jul-12	a	Paths Cut	-	
06-Aug-12	p	Sprayed Samurai and Mixture B	Sa@3 MB@4	l/ha
28-Aug-12	a	Rolled with Discs	-	
31-Aug-12	p	Sprayed Weedazol. TL EW 296 sv SECTIONS 0 1 2 4 5 6 7 9 only	20	l/ha
28-Sep-12	f	Spread Fert TSP as on sheet - sections spread on to: 110 - 119 130 - 139 140 - 149 170 - 179 180 - 189	171	kg/ha
28-Sep-12	f	Spread Fertilizer Muriate of Potash as on sheet onto Plots: 140 - 149	181	kg/ha

03-Oct-12	a	Applied FYM to Strip 2.1 and 2.2 but not section 7, as per plan	-	
03-Oct-12	a	Ploughed – soil thrown Southward	-	
Winter Wheat				
11-Oct-11	s	Drilled Hereward trt Redigo Deter	350	seeds/m ²
15-Mar-12	f	Applied Nitram on plots 12, 17, 18 and 19. wheat only	139	kg/ha
21-Mar-12	p	Sprayed Cherokee SE and Justice SV 200lt/ha Sections 0, 1, 9 - 4 - 5 - 7 and 8.	CH@1.0 JU@0.125	l/ha
02-Apr-12	f	Applied Kieserite on plots:- 5,6,7,8,9,11,12,15,116,17,18,19 and 20	80	kg/ha
02-Apr-12	f	Applied Sulphate of Potash on plots:- 5,6,7,8,9,12,13,15,116,17,18,19 and 20	217	kg/ha
17-Apr-12	f	Applied Nitram Fertiliser onto plots 6,7,8,9,10,11,12,13,14,15,16,17,18,19 and 20	-	
17-Apr-12	f	Applied Nitram Fertiliser onto plot - 2.1 ONLY	417	kg/ha
13-May-12	p	Sprayed Bravo 500, Tracker and CCC ONLY ON SECTIONS: 0, 1, 9, 4, 5, 7 & 8	Br@1.0 Tr@1.0 CCC@2.25	l/ha
13-May-12	p	Sprayed Ally Max, Starane, Topik and Wetter. ONLY SPRAYED SECTIONS 0, 1, 9, 4, 5, 6 & 7	Al@42* St@0.5 To@0.125	*g/ha, l/ha
22-May-12	f	Applied 3rd N Treatment on sections 12, 17, 18 and 19 wheat only	139	kg/ha
28-May-12	p	Sprayed Comet, Bravo 500 and Opus Sections 0, 1, 9, 4, 5, 7 and 8	Co@0.6 Br@1.0 Op@0.8	l/ha
12-Jun-12	p	Sprayed w/ Amistar and Prosaro 100 sv Sections 0, 1, 9, 2, 4, 5, 7 and 8 ONLY	Am@0.3 Pr@0.7	l/ha
21-Aug-12	a	Harvested	-	
22-Aug-12	a	Harvested	-	
23-Aug-12	a	Sampled, Baled and Weighed Straw	-	
Winter Oats				
11-Oct-11	s	Drilled Gerald trt Beret Multi Section 2 only	350	seeds/m ²
16-May-12	p	Sprayed Amistar, Agriguard, Corbel, Ally Max and Starane 2 Section 2 only	Am@0.5, Ag@2.5, Co@0.25, Al@42*, St@0.5	l/ha, *g/ha

02-Jul-12	a	Wild Oat Pulling 0.12 - 1 2.28 - 1 0.38 - 1 0.58 - 1 0.98 - 3 118 + 103 158 - 1 168 - 1 178 - 1 113 Total	See Notes	
20-Aug-12	a	Harvested - Cut and Chopped	-	
23-Aug-12	a	Sampled, Baled and Weighed Straw	-	
Maize				
29-Mar-12	p	Sprayed Section 3 - Samurai SL PRE MAIZE 200lt/ha	3	l/ha
13-May-12	s	Drilled Maize Section 3 (Maize)	10.2	seeds/m ²
13-May-12	a	Powerharrowed Section 3 (Maize) only	-	
14-Jun-12	f	Nitram Applied by hand; plots 193, 183, 173 and 123	193 @ 139 183 @ 287 173 @ 278 123 @ 417	kg/ha
20-Jun-12	p	Sprayed Section 3 ONLY w/ Samson Extra and Callisto 200 sv	Sa@0.75and Ca@1.0	l/ha
27-Sep-12		Harvested Maize for Yield	-	
27-Sep-12	a	Harvested and Chopped odds and ends	-	
28-Sep-12	a	Harvested and Chopped odds and ends	-	
Wilderness				
28-May-12	a	Topped wilderness	-	
18-Jun-12	a	Mowed Wilderness with Topper	-	

NOTE: Samples of grain and straw were taken for chemical analysis. Unground grain and straw samples from selected treatments were archived.

12/R/BK/1

WHEAT

GRAIN TONNES/HECTARE

***** Tables of means *****

SECTION PLOT	5/W1	4/W2	7/W3	6/W35	0/W8	1/W46	9/W54	8/W4	Mean
01 (FYM) N4	8.00	7.85	7.50	4.93	*	*	*	*	7.07
21 FYMN3	7.45	8.14	7.59	5.34	6.41	6.52	6.93	1.12	6.19
22 FYM	7.51	5.91	6.07	5.55	4.96	5.09	5.98	1.10	5.27
03 Nil	2.42	1.11	1.25	1.17	1.19	0.53	0.52	0.84	1.13
05 (P) KMg	2.01	1.47	1.42	1.36	1.46	1.21	1.56	1.63	1.51
06N1 (P) KMg	4.08	3.63	3.51	3.24	3.63	3.32	3.46	1.33	3.28
07N2 (P) KMg	6.03	5.20	4.53	4.26	5.28	5.19	4.67	1.51	4.59
08N3 (P) KMg	7.30	5.58	5.77	5.38	6.53	6.37	5.87	2.11	5.61
09N4 (P) KMg	7.29	5.87	6.76	5.64	6.10	6.36	6.68	1.98	5.84
10N4	6.34	3.57	1.43	1.56	1.11	1.48	1.13	0.76	2.17
11N4 PMg	5.24	2.84	3.00	3.15	5.47	3.29	2.39	0.89	3.28
12N1+3+1 (P) KMg	7.08	7.52	7.57	5.52	6.53	6.49	7.28	1.44	6.18
13N4 PK	7.21	6.30	6.52	5.98	6.55	6.12	6.49	1.97	5.89
14N4 PK* (Mg*)	7.55	6.09	6.53	6.20	6.45	6.14	6.56	1.46	5.87
15N5 (P) KMg	7.34	6.63	7.30	5.76	6.94	7.12	7.17	1.25	6.19
16N6 (P) KMg	6.59	7.56	7.34	5.09	6.50	7.06	6.99	0.64	5.97
17N1+4+1 PKMg	6.35	6.95	7.20	5.08	6.22	6.76	6.75	0.87	5.77
18N1+2+1 PKMg	7.28	7.33	7.18	5.43	6.99	6.62	7.19	1.30	6.17
19N1+1+1 KMg	7.79	5.77	6.47	4.58	5.91	5.66	6.73	1.52	5.55
20N4 KMg	*	*	*	*	1.12	0.14	*	*	0.63
Mean	6.36	5.54	5.52	4.49	5.02	4.82	5.24	1.32	4.81

GRAIN MEAN DM% 85.1

STRAW TONNES/HECTARE

***** Tables of means *****

SECTION PLOT	5/W1	4/W2	7/W3	6/W35	0/W8	1/W46	9/W54	8/W4	Mean
01 (FYM) N4	8.79	*	*	*	*	*	*	*	8.79
21 FYMN3	8.07	*	*	*	*	4.30	*	7.13	6.50
22 FYM	5.82	*	*	*	*	4.30	*	4.59	4.90
03 Nil	0.95	*	*	*	*	0.14	*	0.75	0.61
05 (P) KMg	0.62	*	*	*	*	0.17	*	3.68	1.49
06N1 (P) KMg	2.59	*	*	*	*	1.44	*	3.98	2.67
07N2 (P) KMg	3.96	*	*	*	*	2.31	*	3.43	3.23
08N3 (P) KMg	5.37	*	*	*	*	3.67	*	5.44	4.83
09N4 (P) KMg	6.57	*	*	*	*	3.52	*	5.85	5.31
10N4	3.48	*	*	*	*	0.75	*	2.61	2.28
11N4 PMg	3.22	*	*	*	*	1.28	*	4.06	2.86
12N1+3+1 (P) KMg	8.40	*	*	*	*	4.02	*	6.05	6.16
13N4 PK	6.07	*	*	*	*	3.03	*	5.42	4.84
14N4 PK* (Mg*)	5.31	*	*	*	*	3.18	*	5.13	4.54
15N5 (P) KMg	7.16	*	*	*	*	4.56	*	6.14	5.96
16N6 (P) KMg	8.79	*	*	*	*	4.41	*	6.15	6.45
17N1+4+1 PKMg	9.04	*	*	*	*	4.62	*	6.37	6.68
18N1+2+1 PKMg	7.48	*	*	*	*	4.00	*	8.35	6.61
19N1+1+1 KMg	5.90	*	*	*	*	3.23	*	6.47	5.20
20N4 KMg	*	*	*	*	*	0.14	*	*	0.14
Mean	5.66	*	*	*	*	2.79	*	5.09	4.51

STRAW MEAN DM% 86.9

12/R/BK/1

OATS

TONNES/HECTARE (85% DM)

***** Tables of means *****

Units	PLOT	GRAIN	STRAW
12	01 (FYM) N4]	5.66 ^a	2.99
212	21 [FYMN2]	6.21	3.28 ^a
222	22 [FYM]	6.45	3.41
32	03Nil	1.74	0.40
52	05 (P) KMg	1.97	0.48
62	06 [N1] (P) KMg	2.37	0.66
72	08 [N2] (P) KMg	2.88	0.81
82	08 [N3] (P) KMg	4.37	1.59
92	09 [N4] (P) KMg	3.61	0.97
102	10 [N4]	4.76	2.06
112	11 [N4] PMg	5.85	3.26
122	12 [N1+3+1] (P) KMg	4.29	1.54
132	13 [N4] PK	3.43	0.91
142	14 [N4] PK* (Mg*)	3.29	0.86
152	15 [N5] (P) KMg	5.33	2.83
162	16 [N6] (P) KMg	6.24	4.37
172	17 [N1+4+1] PKMg	5.11	2.70
182	18 [N1+2+1] PKMg	3.35	1.09
192	19 [N1+1+1] KMg	2.94	0.73
	MEAN DM%	87.0	77.9

^aValues estimated from the grain/straw ratio of plot 22.2 due to combine blockage

MAIZE

TONNES/HECTARE (100% DM)

***** Tables of means *****

PLOT	WHOLE CROP
01 (FYM) N4	16.71
21FYMN3	21.28
22FYM	13.08
03Nil	1.93
05 (P) KMg	4.15
06N1 (P) KMg	6.71
07N2 (P) KMg	10.33
08N3 (P) KMg	12.66
09N4 (P) KMg	11.85
10N4	1.12
11N4PMg	6.35
12N2+3 (P) KMg	10.88
13N4PK	12.51
14N4PK* (Mg*)	11.45
15N5 (P) KMg	11.60
16N6 (P) KMg	10.65
17N2+4PKMg	10.65
18N2+2PKMg	13.37
19N2+1KMg	6.33
MEAN	10.19
MEAN DM%	25.9
PLOT AREA HARVESTED	0.00162

ERRATUM
see 2016 page16 (supplied)

Maize Yields (100% DM) shown in previous yield books (2009-2015) were found to be in error because an increase in the crop row spacing from 0.6m to 0.7m was not accounted for. The corrected yields are given below:

	Year	2009	2010	2011	2012	2013	2014	2015
Treatment/ Section	7	4	5	3	2	7	4	
01(FYM)N4	11.81	14.37	8.67	14.32	3.51	13.30	14.31	
21FYMN3	13.84	15.32	9.26	18.24	6.65	15.46	16.61	
22FYM	12.37	12.78	11.95	11.21	8.75	15.87	12.12	
03Nil	0.58	1.73	1.49	1.65	1.34	1.45	2.63	
05(P)KMg	5.20	3.82	2.86	3.56	3.32	4.25	4.05	
06N1(P)KMg	7.12	6.82	5.05	5.75	5.90	7.77	7.13	
07N2(P)KMg	8.51	9.67	7.90	8.85	4.48	9.87	8.88	
08N3(P)KMg	8.25	10.15	5.27	10.85	6.14	8.57	10.85	
09N4(P)KMg	8.34	10.10	5.83	10.16	4.52	8.96	10.12	
10N4	0.94	2.15	1.09	0.96	2.07	2.79	2.83	
11N4PMg	5.19	6.97	3.88	5.44	4.36	4.36	7.71	
12N2+3(P)KMg	8.55	12.42	7.32	9.33	6.52	11.11	14.64	
13N4PK	8.89	11.21	7.20	10.72	8.80	9.58	15.00	
14N4PK*(Mg*)	8.76	11.69	7.01	9.82	9.52	11.33	14.47	
15N5(P)KMg	7.82	12.19	5.63	9.94	7.03	10.06	13.15	
16N6(P)KMg	7.40	10.93	4.33	9.13	6.57	8.59	14.18	
17N2+4PKMg	8.18	10.52	5.19	9.13	3.46	8.99	12.35	
18N2+2PKMg	8.45	9.85	5.88	11.46	5.95	8.98	11.94	
19N2+1KMg	3.49	4.28	2.56	5.43	3.10	4.53	5.10	
Mean	7.56	9.31	5.70	8.73	5.37	8.73	10.42	
Mean DM%	20.90	29.50	18.80	25.90	25.10	29.80	23.20	
Plot Area Harvested	0.00189							

Note: In 2013 herbicide was applied accidentally to maize. Consequently, the maize yields given above for 2013 are unreliable.

12/R/BK/1

SECTION 8: CLEAN GRAIN, TONNES/HA, AFTER REMOVING WEED SEEDS.

YEAR	2010	2011
SECTION	8/W2	8/W3
PLOT		
01 (FYM)N4	-	-
2.1 FYMN2	1.69	3.03
2.2 FYM	3.20	3.67
03 Nil	0.67	1.53
05 (P)KMg	1.52	2.51
06 N1 (P)KMg	2.16	2.31
07 N2 (P)KMg	3.11	2.38
08 N3 (P)KMg	3.99	2.91
09 N4 (P)KMg	4.38	3.58
10 N4	1.14	1.12
11 N4PMg	4.49	3.33
12 N1+3+1 (P)K2Mg2	3.58	4.56
13 N4PK	3.06	3.39
14 N4PK* (Mg*)	3.68	2.96
15 N5 (P)KMg	2.55	1.34
16 N6 (P)KMg	2.23	2.43
17 N1+4+1PKMg	2.69	2.42
18 N1+2+1PKMg	2.59	3.42
19 N1+1+1KMg	2.31	2.18
20 N4KMg	*	*

Note: Section 8 fallow in 2008