ROTHAMSTED RESEARCH

Yields of the Field Experiments 2014

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R/BK/1 Broadbalk

Rothamsted Research

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14/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 171st 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 74-13/R/BK/1.

Areas harvested[a]:

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

[a] Harvest 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 Treatments 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

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(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 since 2001), 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 since 2001), to be reviewed in 2015/16
FYM: Farmyard manure at 35 t

Previous treatment:-
Whole plots

PLOT		Fertilizers and organic manures:-		
	Plot	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

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+ 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
1990	W	W	W	W	W	F	W	W	P	W

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Section	1	9	0*	8+	6**	5	3	7	4	2
Year										
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
2013	W	W	W	W	W	W	W	O	W	M
2014	W	W	W	W	W	W	W	M	O	W

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*.

(4) In 2013 the wheat variety changed from Hereward to Crusoe, but it was sown very late (22nd February 2013) because of the very wet autumn and winter of 2012-13.

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Experimental Diary:

Date		Application	Rate	Units
All Sections				
30-Sep-13	a	Topped rough areas around field edges		
30-Sep-13	f	Spread MOP on plots 140-149	181	kg/ha
30-Sep-13	f	Applied TSP - Plots 180-189, 170-179, 140-149, 130-139, 110-119	171	kg/ha
01-Oct-13	a	Applied Chalk - Plots 017, 2.27, 057, 066, 067, 068, 070, 071, 076, 078, 079, 081, 085, 086, 089, 095, 098, 105, 108, 115, 116, 118, 125, 126, 135, 136, 145, 146, 150, 153, 169, 172, 177, 178, 179, 196, 199 - Not Section 4	2	t/ha
01-Oct-13	a	Applied Chalk - Plots 012, 077, 080, 082, 087, 088, 097, 106, 109, 119, 128, 129, 138, 139, 147, 148, 149, 151, 155, 156, 158, 159, 167, 168, 197, 198 - Not Section 4	4	t/ha
01-Oct-13	a	Applied Chalk - Plots 107, 117, 127, 137, 152, 157, 162 - Not Section 4	6	t/ha
02-Oct-13	f	Applied FYM to plots 2.20-2.29 and 2.10-2.19 - Not Section 4	35	t/ha
03-Oct-13	a	Ploughed, soil thrown north		
04-Oct-13	f	Applied FYM to plots 2.20-2.29 and 2.10-2.19 - Not Section 4	35	t/ha
05-Oct-13	a	Ploughed, soil thrown north		
07-Oct-13	a	Cultipressed		
09-Oct-13	a	Cultipressed		
10-Oct-13	a	marked out maize and oats sections with GPS		
06-Jan-14	a	Hedge Cutting - Roadside		
07-Feb-14	a	Dug channels to clear water at east end of Field		
09-Apr-14	f	Applied Kieserite Treatments - Not to plots in strips 01, 2.1, 2.2, 03, 10, 13, 14	80	kg/ha
09-Apr-14	f	Applied SOP - Not to plots in strips 01, 2.1, 2.2, 03, 10, 11, 14	217	kg/ha
29-Apr-14	a	Mowed All Paths		
30-Apr-14	p	Sprayed Kingdom - NOT sections 8, 4 or 7	1.25	l/ha
30-Apr-14	p	Sprayed Bravo 500 - NOT sections 8, 4 or 7	1.0	l/ha
09-May-14	a	Cut Paths with Iseki and Mower		
16-May-14	p	Sprayed Vortex - All but NOT section 6 and 7	1.5	l/ha

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19-May-14	a	cut paths with iseki		
03-Jun-14	a	Cut paths and hand rogued blackgrass, section 9 only		
03-Jun-14	a	Rotivated Strip Paths		
09-Jun-14	a	Hand rogued blackgrass		
10-Jun-14	a	Hand rogued blackgrass		
17-Jun-14	a	Paths Cut with Iseki and Mower		
18-Jun-14	a	Hand rogued blackgrass		
09-Jul-14	a	cut paths with Iseki and Mower		
10-Jul-14	a	Hand rogued wild oats, 57 plants in total		
29-Jul-14	a	cut paths with Iseki and Mower		
30-Jul-14	a	Claas Harvested OE's		

W Wheat

18-Oct-13	s	Drilled all WW Plots var. Crusoe	400	seeds/m^2
27-Nov-13	p	Applied Major Slug Pellets	4	kg/ha
27-Nov-13	p	Sprayed Hallmark - All wheats but NOT section 8	50	ml/ha
27-Nov-13	p	Sprayed Liberator - All wheats but NOT section 8	600	ml/ha
27-Nov-13	p	Sprayed Stomp - All wheats but NOT section 8	1.7	l/ha
27-Nov-13	p	Sprayed Hallmark - Section 8 only	50	ml/ha
10-Mar-14	f	applied Nitram @ 35%N - To strips 12, 17, 18, 19 but not in sections in 4 or 7	139	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strips 6 and 19 but not in sections in 4 or 7	139	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strips 7 and 18 but not in sections in 4 or 7	278	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strips 8 and 12 but not in sections in 4 or 7	417	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strips 01, 09, 10, 11, 13, 14, 17, 20 but not in sections in 4 or 7	556	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strip 15 but not in sections in 4 or 7	696	kg/ha
03-Apr-14	f	Applied Nitram @ 35%N - To strip 16 but not in sections in 4 or 7	835	kg/ha
04-Apr-14	f	Applied Nitram @ 35%N - To strip 2.1 but not in sections in 4 or 7	417	kg/ha
13-May-14	f	Applied Nitram @ 35%N - To plots in strip 12 but not in sections in 4 or 7	139	kg/ha
13-May-14	f	Applied Nitram @ 35%N - To plots in strip 17 but not in sections in 4 or 7	139	kg/ha
13-May-14	f	Applied Nitram @ 35%N - To plots in strip 18 but not in sections in 4 or 7	139	kg/ha
13-May-14	f	Applied Nitram @ 35%N - To plots in strip 19 but not in sections in 4 or 7	139	kg/ha
15-May-14	p	Sprayed Ally Max - NOT sections 8, 4 or 7	42	g/ha

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15-May-14	p	Sprayed Hatchet Xtra - NOT sections 8, 4 or 7	700	ml/ha
06-Jun-14	p	Sprayed Cello Section 4, 6 + 7 NOT Sprayed	1.1	l/ha
20-Aug-14	a	Sampo Harvested - All wheat plots		
21-Aug-14	a	Claas Harvested OE's		
21-Aug-14	a	Sampled, Baled and Weighed Straw - All Winter Wheat Plots - Also baled OE's on trial		
02-Sep-14	a	Removed Bales From Plots Area		

W Oats

18-Oct-13	s	Drilled OW var. Gerald	400	seeds/m^2
26-Nov-13	p	Sprayed Lexus Millenium - Oats only	100	g/ha
26-Nov-13	p	Sprayed Hallmark - Oats only	50	ml/ha
26-Nov-13	p	Sprayed - Oats only	100	ml/ha
30-Jul-14	a	Baled and Removed Oat Straw		
30-Jul-14	a	Harvested - Sampo - Oat Plots for Yield - on section 4		
31-Jul-14	a	Sampled Baled and Weighed all Oat Plots - section 4		
19-Aug-14	a	Claas Harvested OE's		

Maize

10-Apr-14	p	Sprayed Samurai - Maize section only	3.0	l/ha
10-Apr-14	p	Sprayed Firebrand - Maize section only	1.0	l/ha
15-May-14	a	Flexityned Maize Plots		
15-May-14	a	Power-harrowed Maize Plots		
16-May-14	s	Drilled Maize plots var. Hudson dr mesural	11.5	seeds/m^2
20-May-14	f	Applied Nitram @ 35%N - To plots in strip 06, section 7	139	kg/ha
20-May-14	f	Applied Nitram @ 35%N - To plots in strips 07, 12, 17, 18, 19, section 7	278	kg/ha
20-May-14	f	Applied Nitram @ 35%N - To plots in strips 2.1, 08, section 7	417	kg/ha
20-May-14	f	Applied Nitram @ 35%N - To plots in strips 01, 09, 10, 11, 13, 14, section 7	556	kg/ha
20-May-14	f	Applied Nitram @ 35%N - To plots in strip 15, section 7	696	kg/ha
20-May-14	f	Applied Nitram @ 35%N - To plots in strip 16, section 7	835	kg/ha
02-Jun-14	p	Applied KARAN - Section 7 Only - Slug Pellets	5	kg/ha
16-Jun-14	f	Applied Nitram @ 35%N - To plots in strip 12, section 7	417	kg/ha
16-Jun-14	f	Applied Nitram @ 35%N - To plots in strip 17, section 7	556	kg/ha

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16-Jun-14	f	Applied Nitram @ 35%N - To plots in strip 18, section 7	278	kg/ha
16-Jun-14	f	Applied Nitram @ 35%N - To plots in strip 19, section 7	139	kg/ha
19-Jun-14	p	Sprayed Samson Extra 6% - Maize only	500	ml/ha
19-Jun-14	p	Sprayed Callitso - Maize only	750	ml/ha
30-Sep-14	a	Harvested all maize plots for yield - Harvested by hand		
30-Sep-14	a	Harvested and removed all leftover Maize - from maize plots only.		

Fallows

09-Apr-14	a	Power-harrowed discard/unsown areas
22-Apr-14	a	Rotovated discard/unsown areas
19-May-14	a	Power-harrowed discard/unsown areas

Wilderness

04-Apr-14	a	Mowed Grass
14-May-14	a	Mowed grass
23-May-14	a	Cut Grass
13-Jun-14	a	topped middle grass
11-Dec-14	a	Stubbed area cut down

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

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WHEAT

GRAIN TONNES/HECTARE

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

SECTION / PLOT	2/W1	3/W2	5/W3	6/W37	0/W10	1/W48	9/W56	8/W6	Mean
01(FYM)N4	12.29	11.47	9.29	4.73	*	*	*	*	9.45
21FYMN3	12.08	12.08	10.44	5.61	8.31	7.04	8.43	3.18	8.40
22FYM	6.86	5.89	4.50	3.73	4.60	4.20	4.84	2.21	4.60
03Nil	2.34	0.88	0.75	0.56	1.61	1.37	1.08	0.97	1.19
05(P)KMg	2.02	1.12	0.58	0.73	1.14	1.47	1.01	1.31	1.17
06N1(P)KMg	5.47	4.49	2.82	2.42	3.21	3.29	2.77	1.21	3.21
07N2(P)KMg	8.56	7.47	5.08	3.59	4.41	4.71	4.37	0.94	4.89
08N3(P)KMg	11.07	9.23	6.19	3.94	6.63	5.91	6.11	0.85	6.24
09N4(P)KMg	12.04	10.85	6.42	4.43	7.14	7.51	6.87	0.91	7.02
10N4	10.21	8.26	2.94	1.54	1.56	2.34	2.05	1.80	3.84
11N4PMg	9.60	9.47	6.58	4.04	7.09	6.08	7.87	1.63	6.54
12N1+3+1(P)KMg	12.97	12.06	7.36	4.58	7.87	8.35	8.50	1.77	7.93
13N4PK	11.78	10.74	5.87	4.11	7.14	7.63	7.49	1.54	7.04
14N4PK*(Mg*)	11.17	9.90	4.80	3.85	5.33	5.48	7.63	3.46	6.45
15N5(P)KMg	12.62	11.85	6.25	4.04	7.07	8.12	8.09	1.39	7.43
16N6(P)KMg	12.99	12.60	9.27	4.40	7.24	7.65	8.45	2.73	8.17
17N1+4+1PKMg	12.77	13.28	10.36	4.56	8.11	8.19	7.86	1.02	8.27
18N1+2+1PKMg	11.98	11.19	9.30	4.22	6.89	6.02	8.23	2.11	7.49
19N1+1+1KMg	10.21	8.87	4.87	3.74	6.69	5.33	7.66	0.89	6.03
20N4KMg	*	*	*	*	2.17	1.02	*	*	1.60
Mean	9.95	9.04	5.98	3.62	5.48	5.35	6.07	1.66	5.92

GRAIN MEAN DM% 86.5

STRAW TONNES/HECTARE

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

SECTION / PLOT	2/W1	3/W2	5/W3	6/W37	0/W10	1/W48	9/W56	8/W6	Mean
01(FYM)N4	5.83	*	*	*	*	*	*	*	5.83
21FYMN3	5.96	*	*	*	*	4.97	*	5.41	5.45
22FYM	3.36	*	*	*	*	3.15	*	4.35	3.62
03Nil	0.78	*	*	*	*	0.70	*	1.09	0.86
05(P)KMg	0.76	*	*	*	*	0.62	*	1.98	1.12
06N1(P)KMg	2.79	*	*	*	*	1.90	*	2.92	2.54
07N2(P)KMg	3.85	*	*	*	*	2.57	*	3.47	3.30
08N3(P)KMg	4.78	*	*	*	*	3.27	*	3.38	3.81
09N4(P)KMg	5.81	*	*	*	*	4.27	*	4.57	4.88
10N4	3.85	*	*	*	*	1.63	*	3.46	2.98
11N4PMg	4.52	*	*	*	*	3.59	*	4.17	4.09
12N1+3+1(P)KMg	7.03	*	*	*	*	5.26	*	5.06	5.78
13N4PK	5.65	*	*	*	*	4.05	*	5.02	4.91
14N4PK*(Mg*)	4.83	*	*	*	*	3.20	*	4.07	4.03
15N5(P)KMg	6.34	*	*	*	*	4.66	*	4.27	5.09
16N6(P)KMg	6.64	*	*	*	*	4.88	*	3.23	4.92
17N1+4+1PKMg	7.02	*	*	*	*	4.60	*	3.82	5.15
18N1+2+1PKMg	6.58	*	*	*	*	3.86	*	4.80	5.08
19N1+1+1KMg	5.32	*	*	*	*	3.62	*	3.26	4.07
20N4KMg	*	*	*	*	*	0.97	*	*	0.97
Mean	4.83	*	*	*	*	3.25	*	3.80	3.96

STRAW MEAN DM% 88.1

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14/R/BK/1

OATS

TONNES/HECTARE (85% DM)

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

Plot	Treatment	GRAIN	STRAW
14	01(FYM)[N4]	4.86	2.47
214	21[FYMN2]	6.26	3.46
224	22[FYM]	5.09	2.29
34	03Nil	1.44	0.38
54	05(P)KMg	2.00	0.63
64	06[N1](P)KMg	2.18	0.62
74	07[N2](P)KMg	2.52	0.82
84	08[N3](P)KMg	2.85	1.07
94	09[N4](P)KMg	2.90	1.11
104	10[N4]	5.42	2.32
114	11[N4]PMg	5.26	2.42
124	12[N1+3+1](P)KMg	3.22	1.45
134	13[N4]PK	2.86	1.03
144	14[N4]PK*(Mg*)	2.65	1.01
154	15[N5](P)KMg	3.59	1.61
164	16[N6](P)KMg	5.13	3.31
174	17[N1+4+1]PKMg	4.45	2.76
184	18[N1+2+1]PKMg	2.82	1.49
194	19[N1+1+1]KMg	2.56	1.23
	MEAN	3.58	1.66

PLOT AREA HARVESTED 0.00487

MAIZE

TONNES/HECTARE (100% DM)

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

Plot	Treatment	Whole Crop
17	01(FYM)N4	15.51
217	21FYMN3	18.04
227	22FYM	18.51
37	03Nil	1.69
57	05(P)KMg	4.95
67	06N1(P)KMg	9.06
77	07N2(P)KMg	11.52
87	08N3(P)KMg	10.00
97	09N4(P)KMg	10.45
107	10N4	3.26
117	11N4PMg	5.09
127	12N2+3(P)KMg	12.96
137	13N4PK	11.17
147	14N4PK*(Mg*)	13.22
157	15N5(P)KMg	11.73
167	16N6(P)KMg	10.02
177	17N2+4PKMg	10.49
187	18N2+2PKMg	10.48
197	19N2+1KMg	5.28
MEAN		10.18

PLOT AREA HARVESTED 0.00162

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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.

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SECTION 8: CLEAN GRAIN (2-3.5mm), TONNES/HA AFTER REMOVING WEED SEEDS.

YEAR	2012	2013	2014
SECTION	8/W4	8/W5	8/W6
PLOT			
2.1 FYMN2	0.63	3.28	2.85
2.2 FYM	0.59	2.71	1.76
03 Nil	0.71	1.53	0.87
05 (P)KMg	0.46	2.42	0.84
06 N1(P)KMg	0.52	3.29	0.83
07 N2(P)KMg	1.08	3.44	0.81
08 N3(P)KMg	1.28	3.40	0.71
09 N4(P)KMg	1.46	3.14	0.65
10 N4	0.46	1.33	1.42
11 N4PMg	0.43	2.27	1.48
12 N1+3+1(P)K2Mg2	0.85	3.38	1.57
13 N4PK	1.43	1.72	1.37
14 N4PK*(Mg*)	1.02	2.36	3.10
15 N5(P)KMg	0.63	4.40	1.22
16 N6(P)KMg	0.34	3.50	2.41
17 N1+4+1PKMg	0.63	4.40	0.85
18 N1+2+1PKMg	0.70	3.14	1.91
19 N1+1+1KMg	1.10	1.03	0.72

Note: Clean grain yields reported here for 2012 & 2013 are about 5% less than those reported in the 2013 yield book because they exclude small (<2mm) grains. In future, all clean grain yields for section 8 will be reported for the 2-3.5mm grain size fraction, excluding grain <2mm, as was the practice prior to 2012.

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