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Yields of the Field Experiments 2011

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Results of the
Classical and other
Long-term Experiments
2011

R/CS/326 & W/CS/326 Amounts of Straw

Rothamsted Research

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11/R/CS/326 and 11/W/CS/326

AMOUNTS OF STRAW

Object: To study the effects of different amounts of straw, incorporated into the soil, on w. wheat – Rothamsted (R) Great Knott III, Woburn (W) Far Field I

Sponsors: A Macdonald and M. J. Glendining,

The 25th year, w. wheat

For previous years see Yield Books for 87-10/R & W/CS/326

Design: 4 randomised blocks of 4 plots (R)
3 randomised blocks of 4 plots (W)

Whole plot dimensions: 3.0 x 13.5 (R). 0.004 ha
3.0 x 14.5 (W).

Treatments:

STRAW Amounts of straw incorporated into the seedbed (t/ha), cumulative to previous annual dressings:

		R	W
NONE	None	-	-
NORMAL	Normal	3.50	3.12
2 NORMAL	Twice normal	7.00	6.24
4 NORMAL	Four times normal	14.00	12.48

Experimental Diary

Great Knott III (R)

			Rate	Unit
04-Sept-10	a	Load straw		
13-Sep-10	a	Lime - Applied by contractors	4	t/ha
20-Sep-10	a	Reaper	3	l/ha
21-Sep-10	a	Ploughing started		
22-Sep-10	a	Ploughing completed		
11-Oct-10	a	Cultipressed		
15-Oct-10	a	Drilled Hereward trt Redigo Deter - 350 seeds/m ²	158	kg/ha
16-Oct-10	a	Rolled		
17-Oct-10	p	Sprayed Regatta - water volume = 200 l/ha	0.6	l/ha
13-Dec-10	p	Spread Avadex Excel 15 G	15	kg/ha
09-Mar-11	f	Applied Double Top Fertilizer -	133	kg/ha
29-Mar-11	p	Sprayed Cherokee in 118 l water	1.25	l/ha
08-Apr-11	f	Applied Nitram Fertiliser	262	kg/ha
13-Apr-11	p	Sprayed Pacifica and Bio-Power - wheat only	0.5 1.0	kg/ha l/ha

21-Apr-11	p	Sprayed Opus, Bravo 500 and Agriguard Chlormequat - Wheat only. In 200 l water	0.8 1.0 2.25	l/ha l/ha l/ha
06-May-11	p	Sprayed Bravo 500, Tracker, Agriguard Chlormequat 720 and Justice in 200 l water. Wheat only	1.0 1.0 2.25 0.25	l/ha l/ha l/ha l/ha
10-May-11	f	Applied Nitram	261	kg/ha
11-May-11	a	Cut paths		
20-May-11	p	Sprayed Opus Comet 200 and Bravo 500	0.8 0.6 1.0	l/ha l/ha l/ha
23-May-11	a	Cut paths		
08-Jun-11	a	Cut paths		
27-Jun-11	a	Cut paths		
26-Jul-11	a	Cut paths		
16-Aug-11	a	Combined for yields		

Far Field I (W)

			Rate	Unit
10-Oct-10	a	Straw treatment applied, chopped and spread, rate 1 = 15.3 kg.		
16-Oct-10	a	Ploughed with 3 furrow Ransome at 14".		
18-Oct-10	s	Combination Drilled Hereward, dressed Beret Gold. Cambridge Rolled- 350 seeds/m ² .		
03-Mar-11	f	Broadcast Double Top	185	kg/ha
26-Mar-11	p	Sprayed Atlantis WG + Bio Power. Atlantis with Biopower in 200 l water.	0.4 1.0	kg/ha l/ha
28-Mar-11	p	Sprayed wheat with Cherokee and Manganese in 200 l water.	1.25 1.5	l/ha l/ha
18-Apr-11	f	Broadcast 34.5 %N Nitram.	262	kg/ha
11-May-11	p	Sprayed Ally Max SX with Gala with Opus and Bravo 500 in 200 l water	42 0.75 1.0	g/ha l/ha l/ha
16-May-11	f	Broadcast Nitram, 34.5%N.	116	kg/ha
20-May-11	p	Sprayed Comet with Opus and Bravo 500 in 200 l water.	0.6 0.8 1.0	l/ha l/ha l/ha
01-Sep-11	a	Combined for yield		
02-Sep-11	a	Straw weights		

11/R/CS/326

GRAIN TONNES/HECTARE

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

Treatment	
-	7.47
1	7.66
2	7.73
4	7.82
Mean	7.67

Standard errors of differences of means

Table	Treatment
s.e.d.	0.141

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.200	2.6

Grain mean dm% 81.8

STRAW TONNES/HECTARE

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

Treatment	
-	2.67
1	3.05
2	2.76
4	3.36
Mean	2.96

Standard errors of differences of means

Table	Treatment
s.e.d.	0.279

Stratum standard errors and coefficients of variation

Straw (at 85% dry matter) tonnes/hectare

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.394	13.3

Straw mean dm% 80.2

Plot area harvested 0.00284

11/W/CS/326

GRAIN TONNES/HECTARE

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

Treatment	
-	3.40
1	4.05
2	3.25
4	3.24
Mean	3.49

Standard errors of differences of means

Table	Treatment
s.e.d.	0.656

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.803	23.0

GRAIN MEAN DM% 86.8

STRAW TONNES/HECTARE

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

Treatment	
-	1.56
1	1.92
2	1.60
4	1.53
Mean	1.65

Standard errors of differences of means

Table	Treatment
s.e.d.	0.347

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.4.25	25.7

STRAW MEAN DM% 90.8

Plot area harvested 0.00305