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

Rothamsted Research

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13/R/CS/326 and 13/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 27th year, w. wheat

For previous years see Yield Books for 87-12/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	6.60	4.10
2 NORMAL	Twice normal	13.20	8.21
4 NORMAL	Four times normal	26.40	16.41

Experimental Diary

Great Knott III (R)

Date		Application	Rate	Units
23-Aug-12	a	Baled and weighed straw	See above	
20-Sep-12	a	Ploughed		
11-Oct-12	s	Drilled w/Crusoe dr Redigo Deter	145	kg/ha
13-Oct-12	f	Spread MOP	227	kg/ha
13-Oct-12	p	Sprayed Liberator EW	0.6	l/ha
18-Oct-12	p	Spread Slug Pellets - Gusto	6	kg/ha
25-Apr-13	f	Applied Nitram (second N application)	261	kg/ha
07-May-13	p	Sprayed Kingdom, Bravo and Cycocel	King@1.25 Brav@1.0 Cyco@2.0	l/ha l/ha l/ha
05-Jun-13	p	sprayed refine max, ignite, comet, hatchet	ref@75 ign@1.2 com@0.4 hat@0.75	g/ha l/ha l/ha l/ha
13-Jun-13	a	Cut Paths	—	—
18-Jun-13	p	Sprayed Cello	@0.55	l/ha

18-Jul-13	a	Cut Paths	—	—
13-Aug-13	a	Sampo - Harvested plots	—	—
13-Aug-13	a	Baled weighed and sampled plots	—	—

The first and third split N applications of Nitram were 148 and 261 kg/ha, but the application dates were not recorded.

Far Field I (W)

Date		Application	Rate	Units
07-Sept-12	a	Straw weighed	See above	
20-Sep-12	a	Ploughed all plots	—	—
27-Oct-12	s	Drilled Crusoe trt Redigo Deter	400	seeds/m ²
20-Feb-13	s	Drilled Crusoe trt Redigo Deter, re-drilled trial	500	seeds/m ²
19-Apr-13	f	Applied Double Top Fertilizer	148	kg/ha
09-May-13	f	Applied Nitram	203	kg/ha
16-May-13	p	Sprayed Atlantis + Hadron + Biopower in 150 lt/ha water	At@0.4 Had@0.6 Bio@1.0	kg/ha kg/ha l/ha
31-May-13	f	Applied Nitram	203	kg/ha
10-Jun-13	p	Sprayed Bassoon and Gemstone	Ba 0.4 Ge 1.0	l/ha l/ha
05-Jul-13	p	Sprayed Ally Max, Ignite, Comet and Hatchet Xtra in 200 lt/ha water volume.	Al 42 Ig 1.1 Co 0.25 Ha 0.75	g/ha l/ha l/ha
02-Sep-13	a	Cut plots for yield	—	—
05-Sep-13	a	Straw weights done	—	—

13/R/CS/326

GRAIN TONNES/HECTARE

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

Straw	
-	6.71
1	6.75
2	6.91
4	7.23
Mean	6.90

Standard errors of differences of means

Table	Straw
s.e.d.	0.219

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.310	4.5
Grain mean DM%	87.6		

Straw tonnes/hectare

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

Straw	
-	3.47
1	3.50
2	3.70
4	3.94
Mean	3.65

Standard errors of differences of means

Table	Straw
s.e.d.	0.192

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.272	7.4
Straw mean DM%	91.1		
Plot area harvested	0.00284		

13/W/CS/326

Grain tonnes/hectare

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

Straw	
-	5.01
1	4.66
2	4.97
4	4.92
Mean	4.89

Standard errors of differences of means

Table	Straw
s.e.d.	0.443

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.542	11.1

Grain mean DM 88.6

Straw tonnes/hectare

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

Straw	
-	2.47
1	2.56
2	2.73
4	2.53
Mean	2.57

Standard errors of differences of means

Table	Straw
s.e.d.	0.311

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.381	14.8

Straw mean DM% 94.8

Plot area harvested 0.00305