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Results of the Classical and Other Long-term Experiments 2006

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06/R/CS/326 and 06/W/CS/326 - Amount of Straw

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06/R/CS/326 and 06/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: M.J. Glendining, P.C. Brookes.

The 20th year, w. wheat.

For previous years see 87-05/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	5.19	3.20
2 NORMAL	Twice normal	10.38	6.40
4 NORMAL	Four times normal	20.76	1280

Experimental diary:

Great Knott III (R):

18-Aug-05 : T : : Straw treatments applied, baled remaining straw.
26-Sep-05 : B : : Ploughed 35 cm furrows.
28-Sep-05 : B : : Cultipress, combination drilled, Hereward, tr.
Sibutol Secur, at 350 seeds/m², rolled.
03-Oct-05 : B : : Crystal at 4.0 l in 200 l.
05-Dec-05 : B : : Hallmark with Zeon Technology at 50 ml in 200 l.
15-Mar-06 : B : : Double Top at 185 kg. (50 kg N).
21-Apr-06 : B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Bravo 500 at 1.0 l in 200 l.
: B : : tm)Flexity at 0.2 l in 200 l.
24-Apr-06 : B : : Double Top at 435 kg. (140 kg N).
16-May-06 : B : : tm)Ally Max SX at 42 g in 200 l.
: B : : tm)Starane 2 at 0.75 l in 200 l.
02-Jun-06 : B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Bravo 500 at 1.0 l in 200 l.
: B : : tm)Vivid at 0.4 l in 200 l.
16-Aug-06 : B : : Combine harvested plots for yield, combined
discards, swathed straw, sample and weighed.

06/R/CS/326 and 06/W/CS/326

Experimental diary:

Far Field I (W):

07-Sep-05 : T : : Straw treatments applied.
Remaining straw baled and removed.
22-Sep-05 : B : : Azural at 3.0 l in 200 l.
01-Oct-05 : B : : Ploughed 35 cm furrows.
08-Oct-05 : B : : Rolled.
12-Oct-05 : B : : Combination drilled, Hereward, tr. Sibutol Secur at
350 seeds/m² with the Accord drill.
14-Oct-05 : B : : Rolled.
13-Nov-05 : B : : tm)Alpha IPU 500 at 2.0 l in 200 l.
: B : : tm)Hallmark with Zeon Technology at 50 ml in 200 l.
: B : : tm)Mantrac 500 at 1.0 l in 200 l.
: B : : tm)Stomp 40 SC at 2.5 l in 200 l.
17-Mar-06 : B : : N Sulphur 30% N, 7.6% S at 185 kg.
07-Apr-06 : B : : tm)Pacifica at 0.4 kg in 200 l.
: B : : tm)Biopower at 1.0 l in 200 l.
: B : : tm)Duplosan KV at 2.0 l in 200 l.
: B : : tm)Biopower at 1.0 l in 200 l.
24-Apr-06 : B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Bravo 500 at 1.25 l in 200 l.
: B : : tm)Mantrac 500 at 1.25 l in 200 l.
25-Apr-06 : B : : Double Top 27% N, 12 S at 481 kg.
16-May-06 : B : : tm)Quantum SX at 30 g in 200 l.
: B : : tm)Copper Man at 2.0 l in 200 l.
07-Jun-06 : B : : tm)Bravo 500ar at 1.0 l in 200 l.
: B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Vivid at 0.4 l in 200 l.
27-Aug-06 : T : : Combine harvested plots for yield, combined
discards, swathed straw, sampled, baled and weighed
straw.

NOTE: Grain and straw samples were taken for N analysis.

06/R/CS/326

GRAIN TONNES/HECTARE

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

STRAW	
NONE	7.95
NORMAL	7.21
2 NORMAL	7.09
4 NORMAL	6.72
Mean	7.24

*** Standard errors of differences of means ***

STRAW
0.312

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.442	6.1

GRAIN MEAN DM% 85.4

STRAW TONNES/HECTARE

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

STRAW	
NONE	5.84
NORMAL	6.04
2 NORMAL	5.94
4 NORMAL	6.69
Mean	6.13

STRAW MEAN DM% 92.3

PLOT AREA HARVESTED 0.00278

06/W/CS/326

GRAIN TONNES/HECTARE

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

STRAW	
NONE	7.74
NORMAL	7.42
2 NORMAL	7.38
4 NORMAL	7.58
Mean	7.53

*** Standard errors of differences of means ***

STRAW
0.287

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.351	4.7

GRAIN MEAN DM% 81.2

STRAW TONNES/HECTARE

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

STRAW	
NONE	5.53
NORMAL	5.14
2 NORMAL	5.36
4 NORMAL	5.31
Mean	5.34

STRAW MEAN DM% 87.7

PLOT AREA HARVESTED 0.00305