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Results of the Classical and Other Long-term Experiments 2005

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05/R/CS/326 and 05/W/CS/326 - Amount of Straw

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05/R/CS/326 and 05/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 18th year, w. wheat.

For previous years see 87-04/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, cumulative to previous annual dressings:

		R	W
NONE	None	-	-
NORMAL	Normal	4.31	1.68
2 NORMAL	Twice normal	8.62	3.36
4 NORMAL	Four times normal	17.24	6.72

Experimental diary:

Great Knott III (R):

02-Sep-04 : T : : Straw treatments applied.
07-Sep-04 : T : : Chopped straw.
21-Sep-04 : B : : Ploughed 35 cm furrows.
22-Sep-04 : B : : Cultipress
27-Sep-04 : B : : Combination drilled, Hereward, tr. Sibutol Secur, at
350 seeds/m² with the Accord drill, rolled.
05-Nov-04 : B : : tm)Claymore at 3.3 l in 200 l.
: B : : tm)Alpha IPU 500 at 2.5 l in 200 l.
: B : : tm)Hallmark with Zeon Technology at 50 ml in 200 l.
19-Mar-05 : B : : tm)Duplosan KV at 1.5 l in 200 l.
: B : : tm)Atlantis at 0.4 l in 200 l.
: B : : tm)Biopower at 1.0 l in 200 l.
03-Apr-05 : B : : Sulphur Gold at 167 kg. (50 kg N).
30-Apr-05 : B : : 34.5% N at 406 kg. (140 kg N).
27-May-05 : B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Twist at 0.8 l in 200 l.
: B : : tm)Starane 2 at 0.75 l in 200 l.
17-Aug-05 : B : : Combine harvested plots for yield, combined
discards, swathed straw and weighed.

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Experimental diary:

Far Field I (W):

07-Sep-04 : T : : Straw treatments applied.
26-Sep-04 : B : : Glyphosate 360 at 4.0 l in 200 l.
02-Oct-04 : B : : Ploughed 35 cm furrows.
: B : : Power harrowed, drilled, Hereward, tr. Sibutol Secur
at 350 seeds/m² with the Accord drill.
14-Nov-04 : B : : tm)Claymore at 2.5 l in 200 l.
: B : : tm)Alpha IPU 500 at 2.5 l in 200 l.
: B : : tm)Hallmark with Zeon Technology at 50 ml in 200 l.
09-Apr-05 : B : : Sulphur Gold 30% N, 7.6% S at 167 kg.
14-May-05 : B : : Sulphur Gold 30% N, 7.6% S at 467 kg.
15-May-05 : B : : tm)Opus at 0.75 l in 200 l.
: B : : tm)Amistar Opti at 1.5 l in 200 l.
: B : : tm)Starane 2 at 0.5 l in 200 l.
09-Jun-05 : B : : tm)Amistar at 0.3 l in 200 l.
: B : : tm)Opus at 0.5 l in 200 l.
02-Sep-05 : 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.

05/R/CS/326

GRAIN TONNES/HECTARE

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

STRAW	
NONE	8.37
NORMAL	7.98
2 NORMAL	8.17
4 NORMAL	7.87
Mean	8.10

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

STRAW
0.224

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	9	0.317	3.9
GRAIN MEAN DM%	85.2		

STRAW TONNES/HECTARE

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

STRAW	
NONE	5.81
NORMAL	5.39
2 NORMAL	5.74
4 NORMAL	5.54
Mean	5.62

STRAW MEAN DM% 93.6

PLOT AREA HARVESTED 0.00284

05/W/CS/326

GRAIN TONNES/HECTARE

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

STRAW	
NONE	5.88
NORMAL	5.15
2 NORMAL	5.62
4 NORMAL	5.95
Mean	5.65

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

STRAW
0.290

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.355	6.3
GRAIN MEAN DM%	89.0		

STRAW TONNES/HECTARE

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

STRAW	
NONE	2.51
NORMAL	3.27
2 NORMAL	2.94
4 NORMAL	2.50
Mean	2.80

STRAW MEAN DM% 92.3

PLOT AREA HARVESTED 0.00305