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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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Rothamsted Research (2006) *05/R/CS/326 and 05/W/CS/326 - Amount of Straw* ; Results Of The Classical And Other Long-Term Experiments 2005, pp 27 - 30 - DOI:

<https://doi.org/10.23637/ERADOC-1-262>

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