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Yields of the Field Experiments 2013

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

Rothamsted Research

Rothamsted Research (2014) *R/CS/326 & W/CS 326 Amounts of Straw ;* Yields Of The Field Experiments 2013, pp 48 - 51 **- DOI: https://doi.org/10.23637/ERADOC-1-223**

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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

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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.	Ig 1.1 0.25	Al 42 Co Ha 0.75	g/ha l/ha l/ha l/ha
02-Sep-13	a	Cut plots for yield		—	—
05-Sep-13	a	Straw weights done		—	—

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13/R/CS/326

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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
```


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13/W/CS/326

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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.                  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.                  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
```


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