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## Yields of the Field Experiments 1991

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### 91/R/CS/326 and 91/W/CS/326 Amounts of Straw - W. Wheat

#### Rothamsted Research

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## 91/R/CS/326 and 91/W/CS/326

### AMOUNTS OF STRAW

**Object:** To study the effects of a range of amounts of straw incorporated into the soil on w.wheat - Rothamsted (R) Great Knott III, Woburn (W) Far Field I.

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The fifth year, w. wheat.

For previous years see 87-90/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).  
3.0 x 14.5 (W).

#### Treatments:

**STRAW** Amounts of straw incorporated into seedbed (t per ha 85% DM), cumulative to previous annual dressings:

		R	W
NONE	None	-	-
NORMAL	Normal	3.9	3.0
2 NORMAL	Twice normal	7.8	6.0
4 NORMAL	Four times normal	15.6	12.0

**NOTES:** (1) Straw treatments were applied on 14 Aug, 1990 (R), 15 Aug (W) and chopped by trailed straw chopper and spread on 22 Aug (R), 19 Aug (W).  
(2) At Rothamsted straw was incorporated by plough on 24 Aug. At Woburn it was disc cultivated to 10 cm on 24 Sept.

#### Basal applications:

Great Knott III (R): Manures: 'Nitram' at 120 kg followed by 580 kg. (0:16:36) at 1040 kg. Weedkillers: Glyphosate at 0.27 kg in 200 l. Tri-allate at 2.2 kg. Isoproturon at 1.3 kg and pendimethalin at 1.3 kg in 200 l. Fungicides: Fenpropimorph at 0.38 kg in 200 l. Propiconazole at 0.25 kg in 200 l.

Far Field I (W): Manures: Magnesian limestone at 7.5 t. 'Nitram' at 120 kg followed by 580 kg. Weedkillers: Glyphosate at 0.27 kg in 220 l. Tri-allate at 1.7 kg in 220 l. Pendimethalin at 1.3 kg with isoproturon at 1.2 kg applied with the insecticide in 220 l. Fungicides: Fenpropimorph at 0.38 kg in 210 l and on a second occasion with chlorothalonil at 0.49 kg and flutriafol at 78 g in 300 l. Insecticide: Deltamethrin at 5.0 g.

**Seed:** Haven, sown at 190 kg (R), 170 kg (W).

91/R/CS/326 and 91/W/CS/326

**Cultivations, etc.:-**

Great Knott III (R): Ploughed and rolled: 24 Aug, 1990. Glyphosate applied: 8 Oct. Rotary harrowed, seed sown and harrowed: 12 Oct. Rolled: 15 Oct. Tri-allate applied: 2 Nov. Isoproturon and pendimethalin applied: 15 Nov. N applied: 4 Mar, 1991 and 3 Apr. P and K applied: 12 Apr. Fenpropimorph applied: 24 Apr. Propiconazole applied: 11 June. Combine harvested: 21 Aug.

Far Field I (W): Magnesian limestone applied: 23 Aug. Glyphosate applied: 11 Sept. Disced twice: 24 Sept. Tri-allate applied, rotary harrowed, seed sown: 2 Oct. Pendimethalin, isoproturon and deltamethrin applied: 27 Nov. N applied: 15 Mar, 1991 and 17 Apr. Fenpropimorph applied: 24 Apr. Fenpropimorph, chlorothalonil and flutriafol applied: 20 June. Combine harvested: 22 Aug.

**NOTES:** (1) Establishment counts were made in autumn. Shoot numbers and dry weights in spring, fertile ear numbers at anthesis and harvest index were measured.

(2) Foot and root rots were assessed in summer.

91/R/CS/326 GREAT KNOTT III (R)

**GRAIN TONNES/HECTARE**

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

<b>STRAW</b>	
NONE	8.24
NORMAL	8.43
2 NORMAL	7.87
4 NORMAL	8.61
Mean	8.29

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

**STRAW**  
0.416

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	9	0.588	7.1
GRAIN MEAN DM%	87.3		
PLOT AREA HARVESTED	0.00307		

91/W/CS/326 FAR FIELD I (W)

GRAIN TONNES/HECTARE

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

STRAW	
NONE	7.59
NORMAL	7.84
2 NORMAL	6.89
4 NORMAL	7.99
Mean	7.58

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

STRAW
0.936

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	6	1.147	15.1
GRAIN MEAN DM%	86.1		
PLOT AREA HARVESTED	0.00302		