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90/R/CS/326 and 90/W/CS/326 Amounts of Straw - W. Wheat

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90/R/CS/326 and 90/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 fourth year, w. wheat.

For previous years see 87-89/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	5.1	6.5
2 NORMAL	Twice normal	10.2	13.0
4 NORMAL	Four times normal	20.4	26.0

- NOTES:** (1) Straw treatments were applied on 9 Aug, 1989 (R) and (W) and chopped by trailed straw chopper and spread on 16 Aug (R), 22 Aug (W).
(2) At Rothamsted straw was incorporated by plough on 22 Aug. At Woburn it was heavy-tine cultivated in to 10 cm on 30 Aug, and rotary cultivated on 21 Sept.

Basal applications:

Great Knott III (R): Manures: 'Nitram' at 120 kg followed by 580 kg.
Weedkillers: Paraquat at 0.40 kg ion with a wetting agent, 'Enhance' at 100 ml, in 200 l. Chlorotoluron at 3.0 kg with cyanazine at 0.75 kg in 400 l. Isoproturon at 2.1 kg in 200 l. Fluroxypyr at 0.20 kg with fenoxaprop-ethyl at 0.18 kg in 200 l. Fungicides: Chlorothalonil at 1.0 kg with propiconazole at 0.12 kg in 200 l.

Far Field I (W): Manures: 'Nitram' at 120 kg followed by 560 kg.
Weedkillers: Glyphosate at 0.36 kg in 220 l. Isoproturon at 1.5 kg with isoxaben at 75 g in 220 l. Metsulfuron-methyl at 6.0 g in 220 l. Fungicides: Chlorothalonil at 0.50 kg with propiconazole at 0.12 kg in 300 l.

Seed: Pastiche, sown at 180 kg.

90/R/CS/326 and 90/W/CS/326

Cultivations, etc.:-

Great Knott III (R): Ploughed: 22 Aug, 1989. Paraquat and wetting agent applied: 2 Oct. Rotary harrowed: 4 Oct. Seed sown: 5 Oct. Harrowed and rolled: 6 Oct. Chlorotoluron and cyanazine applied: 22 Nov. Isoproturon applied: 23 Feb, 1990. N applied: 2 Mar and 12 Apr. Fluroxypyr and fenoxaprop-ethyl applied: 30 Apr. Fungicides applied: 31 May. Combine harvested: 13 Aug.

Far Field I (W): Heavy-tine cultivated: 30 Aug, 1989 and 11 Sept. Rotary cultivated: 21 Sept. Subsoiled with vibrating tines 50 cm apart and 40 cm deep, glyphosate applied: 6 Oct. Rotary harrowed with crumbler attached, seed sown: 7 Oct. Isoproturon and isoxaben applied: 11 Dec. N applied: 23 Feb, 1990 and 5 Apr. Metsulfuron-methyl applied: 24 Apr. Fungicides applied: 22 May. Combine harvested: 6 Aug.

- NOTES:** (1) Establishment counts were made in autumn. Shoot numbers and dry weight at growth stage 30, fertile ear numbers after anthesis and harvest index were measured.
(2) Foot and root rots were assessed in summer.

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

GRAIN TONNES/HECTARE

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

STRAW	
NONE	6.48
NORMAL	6.66
2 NORMAL	6.26
4 NORMAL	7.04
Mean	6.61

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

STRAW
0.310

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	9	0.439	6.6
GRAIN MEAN DM%	90.2		
PLOT AREA HARVESTED	0.00305		

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

GRAIN TONNES/HECTARE

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

STRAW	
NONE	6.76
NORMAL	6.54
2 NORMAL	6.37
4 NORMAL	6.40
Mean	6.52

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

STRAW
0.506

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	6	0.620	9.5
GRAIN MEAN DM%	89.9		
PLOT AREA HARVESTED	0.00318		