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Yields of the Field Experiments 1987

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87/R/CS/326 and 87/W/CS/326 Amounts of Straw - W. Wheat

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87/R/CS/326 and 87/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 first year, w. wheat.

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 ha 85% DM):

		R	W
NONE	None	-	-
NORMAL	Normal	5.8	4.3
2 NORMAL	Twice normal	11.6	8.6
4 NORMAL	Four times normal	23.2	17.3

- NOTES: (1) Straw was chopped by trailed straw chopper and spread on 20 Aug, 1986 (R), 4 Sept (W). Straw treatments were applied on 22 Aug (R), 8 Sept (W).
(2) At Rothamsted straw was incorporated by 'N.I.A.E. Mixaplough' on 29 Aug. At Woburn it was deep-tine cultivated in to 20 cm twice on 15 Sept, heavy spring-tine cultivated to 10 cm and disced three times on 18 Sept and disced twice on 29 Sept.

Basal applications:

Great Knott III (R): Manures: 'Nitram' at 130 kg followed by 590 kg. Weedkillers: Paraquat at 0.60 kg ion in 200 l. Isoproturon at 2.5 kg in 200 l. Clopyralid at 0.05 kg, bromoxynil at 0.24 kg with mecoprop at 1.8 kg in 200 l. Fungicides: Propiconazole at 0.12 kg in 200 l. Propiconazole at 0.12 kg with carbendazim at 0.25 kg and maneb at 1.6 kg in 200 l.

Far Field I (W): Manures: 'Nitram' at 120 kg followed by 600 kg. Weedkillers: Tri-allate (as 'Avadex BW' at 4.2 l) in 250 l. Isoproturon at 2.0 kg with clopyralid at 0.07 kg, bromoxynil at 0.34 kg and mecoprop at 2.5 kg in 240 l. Fungicides: Propiconazole at 0.12 kg with tridemorph at 0.52 kg in 200 l. Propiconazole at 0.12 kg with carbendazim and maneb (as 'Septal' at 2.5 kg) in 200 l.

Seed: Great Knott III (R) and Far Field I (W): Mission, sown at 190 kg.

Cultivations, etc.:-

Great Knott III (R): Paraquat applied: 27 Sept, 1986. Rolled: 29 Sept. Disced: 1 Oct. Rotary harrowed, seed sown and harrowed: 6 Oct. N applied: 19 Mar, 1987, 18 Apr. Isoproturon applied: 31 Mar. Clopyralid, bromoxynil and mecoprop applied: 18 Apr. Propiconazole applied: 28 May. Propiconazole, carbendazim and maneb applied: 30 June. Combine harvested: 19 Aug. Previous crops: W. wheat 1985 and 1986.

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Cultivations, etc.:-

Far Field I (W): Rotary cultivated with crumbler attached, seed sown: 8 Oct, 1986. Rolled: 9 Oct. Tri-allate applied, harrowed: 10 Oct. N applied: 31 Mar, 1987, 16 Apr. Isoproturon, clopyralid, bromoxynil and mecoprop applied: 17 Apr. Propiconazole and tridemorph applied: 5 June. Propiconazole, carbendazim and maneb applied: 30 June. Combine harvested: 7 Sept. Previous crops: W. wheat 1985 and 1986.

NOTES: (1) Establishment counts were made in autumn and measurements were made of total dry matter in spring.
(2) Foliar diseases and foot and root rots were assessed in summer.

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GRAIN TONNES/HECTARE

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

STRAW	NONE	NORMAL	2 NORMAL	4 NORMAL	Mean
	4.95	4.77	4.62	5.05	4.85

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

Table	STRAW
s.e.d.	0.155

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	9	0.219	4.5
GRAIN MEAN DM%	82.8		
PLOT AREA HARVESTED	0.00324		

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GRAIN TONNES/HECTARE

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

STRAW	NONE	NORMAL	2 NORMAL	4 NORMAL	Mean
	2.93	2.88	3.01	2.43	2.81

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

Table	STRAW
s.e.d.	0.209

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	6	0.256	9.1
GRAIN MEAN DM%	75.2		
PLOT AREA HARVESTED	0.00442		