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Yields of the Field Experiments 1984

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84/R/WW/1 and 84/W/WW/1 Varieties - W. Wheat

Rothamsted Research

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84/R/WW/1 and 84/W/WW/1

WINTER WHEAT

VARIETIES

Object: To study a selection of the newer varieties of w. wheat and the effects of growth regulator on them on land in rotation (pathogen free) and after wheat (pathogen infected) - Rothamsted Fosters West (pathogen free RH) and Little Hoos (pathogen infected RD), Woburn Far Field I (pathogen free WH).

Sponsors: R. Moffitt, R.J. Gutteridge.

Design: 2 randomised blocks of 2 whole plots split into (RH) 13 (RD,WH) 11.

Sub plot dimensions: (RH) 3.0 x 12.0 , (RD) 3.0 x 10.0, (WH) 4.0 x 12.0.

Treatments: All combinations of:-

Whole plots

- | | |
|------------|--------------------------------|
| 1. GROWREG | Growth regulator: |
| NONE | None |
| CHLORMEQ | Chlormequat at 1.7 l in 250 l. |

Sub plots

- | | |
|------------|--------------------------------|
| 2. VARIETY | Varieties: |
| AVALON | Avalon (duplicated on RH only) |
| BRMSTONE | Brimstone |
| FENMAN | Fenman |
| GALAHAD | Galahad |
| Longbow | Longbow |
| MISSION | Mission |
| MOULIN | Moulin |
| NORMAN | Norman (duplicated on RH only) |
| RAPIER | Rapier |
| STETSON | Stetson |
| TR GRACE | Triticale, Grace |

Basal applications:

Fosters West (RH): Manures: N at 200 kg as 'Nitro-Chalk'.
Weedkillers: Mecoprop at 2.2 kg with isoproturon at 2.4 kg in 250 l.
Cyanazine at 0.24 l with mecoprop at 1.6 l in 250 l. Fungicides:
Carbendazim at 0.15 kg with tridemorph at 0.38 kg and maneb at 1.6 kg in 250 l. Insecticide: Pirimicarb at 0.14 kg in 250 l.
Little Hoos (RD): Manures: N at 50 kg and 160 kg as 'Nitro-Chalk'.
Weedkillers: Paraquat at 0.6 kg ion in 250 l. Mecoprop at 2.2 kg with isoproturon at 2.4 kg in 250 l. Cyanazine at 0.24 l with mecoprop at 1.6 l applied with the prochloraz and carbendazim in 250 l. Fungicides: Prochloraz at 0.4 kg with carbendazim at 0.15 kg. Carbendazim at 0.15 kg with tridemorph at 0.38 kg and maneb at 1.6 kg in 250 l. Insecticide: Pirimicarb at 0.14 kg in 250 l.

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Far Field I (WH): Manures: N at 50 kg and 140 kg as 'Nitro-Chalk'.
Fungicides: Prochloraz at 0.4 kg with carbendazim at 0.15 kg in
250 l. Propiconazole at 0.25 kg in 250 l. Insecticide: Pirimicarb
at 0.14 kg in 250 l.

Seed: Fosters West (RH), Little Hoos (RD): Varieties sown at 180 kg.
Far Field I (WH): Varieties sown at 190 kg.

Cultivations, etc.:-

Fosters West (RH): Ploughed: 15 Sept, 1983. Spring-tine cultivated:
12 Oct. Rotary harrowed, seed sown: 13 Oct. Mecoprop with
isoproturon applied: 9 Nov. N applied: 9 Apr, 1984. Cyanazine with
mecoprop applied: 17 Apr. Chlormequat applied: 25 Apr. Fungicides
applied: 13 June. Insecticide applied: 27 June. Combine harvested:
22 Aug. Previous crops: W. wheat 1982, w. beans 1983.

Little Hoos (RD): Heavy spring-tine cultivated twice: 23 Aug, 1983,
13 Oct. Paraquat applied: 26 Sept. Rotary harrowed, seed sown:
17 Oct. Mecoprop with isoproturon applied: 10 Nov. N applied:
10 Mar, 1984, 10 Apr. Cyanazine with mecoprop and prochloraz with
carbendazim applied 17 Apr. Chlormequat applied: 25 Apr.
Carbendazim with tridemorph and maneb applied: 13 June. Insecticide
applied: 27 June. Combine harvested: 22 Aug. Previous crops:
W. oats 1982, w. wheat 1983.

Far Field I (WH): Heavy spring-tine cultivated, spring-tine cultivated
with crumbler attached, seed sown: 4 Nov, 1983. N applied: 22 Mar,
1984, 30 Apr. Chlormequat applied, prochloraz with carbendazim
applied: 14 May. Propiconazole applied: 16 June. Insecticide
applied: 29 June. Combine harvested: 22 Aug. Previous crops:
S. barley 1982, potatoes 1983.

84/R/WW/1

HEALTHY SITE

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

GROWREG VARIETY	NONE	CHLORMEQ	MEAN
AVALON	11.94	11.65	11.79
BRMSTONE	12.75	12.45	12.60
FENMAN	11.66	11.46	11.56
GALAHAD	12.45	12.08	12.27
LONGBOW	12.28	12.03	12.15
MISSION	11.82	11.87	11.85
MOULIN	12.31	12.16	12.23
NORMAN	12.23	11.65	11.94
RAPIER	13.07	12.39	12.73
STETSON	12.06	11.64	11.85
TR GRACE	7.74	8.21	7.98
MEAN	11.85	11.60	11.72

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	VARIETY	GROWREG* VARIETY	
SED	0.220	0.311	MIN REP
	0.191	0.270	MAX-MIN
	0.156	0.220	MAX REP

* WITHIN THE SAME LEVEL OF GROWREG ON

VARIETY
 MAX REP AVALON V NORMAN
 MAX-MIN AVALON OR NORMAN V ANY OF THE REMAINDER
 MIN REP ANY OF THE REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP.SP	28	0.311	2.7
GRAIN MEAN DM%	87.2		
SUB PLOT AREA HARVESTED	0.00245		

84/R/WW/1

DISEASED SITE

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

GROWREG VARIETY	NONE	CHLORMEQ	MEAN
AVALON	10.76	11.44	11.10
BRMSTONE	12.76	12.05	12.40
FENMAN	10.77	11.16	10.96
GALAHAD	11.82	12.05	11.93
LONGBOW	11.73	12.01	11.87
MISSION	10.16	11.13	10.64
MOULIN	11.01	11.19	11.10
NORMAN	12.00	11.91	11.95
RAPIER	11.74	12.62	12.18
STETSON	10.91	10.89	10.90
TR GRACE	7.16	7.71	7.44
MEAN	10.98	11.29	11.13

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	VARIETY	GROWREG* VARIETY
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SED	0.312	0.441

* WITHIN THE SAME LEVEL OF GROWREG ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP.SP	20	0.441	4.0
GRAIN MEAN DM%	87.8		
SUB PLOT AREA HARVESTED	0.00203		

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GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

GROWREG VARIETY	NONE	CHLORMEQ	MEAN
AVALON	10.63	10.03	10.33
BRMSTONE	9.69	9.82	9.76
FENMAN	10.96	10.31	10.64
GALAHAD	9.64	8.72	9.18
LONGBOW	10.11	9.21	9.66
MISSION	10.64	11.74	11.19
MOULIN	11.36	9.24	10.30
NORMAN	9.17	9.98	9.57
RAPIER	9.24	10.39	9.81
STETSON	10.52	9.70	10.11
TR GRACE	6.79	6.40	6.60
MEAN	9.89	9.59	9.74

TABLE	VARIETY	GROWREG* VARIETY
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SED	0.865	1.223

* WITHIN THE SAME LEVEL OF GROWREG ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP.SP	20	1.223	12.6
GRAIN MEAN DM%	86.9		
SUB PLOT AREA HARVESTED	0.00330		