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Yields of the Field Experiments 1975

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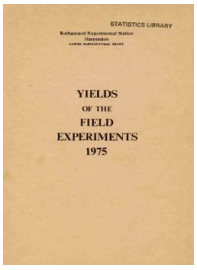

75/ R&w/WW/1 - Varieties, N, Ccc & Fungicides - Winter Wheat

Rothamsted Research

Rothamsted Research (1976) *75/ R&w/WW/1 - Varieties, N, Ccc & Fungicides - Winter Wheat ;* Yields Of The Field Experiments 1975, pp 283 - 288 **- DOI: https://doi.org/10.23637/ERADOC-1-141**

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75/R/WW/1 and 75/W/WW/1

WINTER WHEAT

VARIETIES, N, CCC AND FUNGICIDE

Object: To study the yields and flour quality of a selection of the newer varieties of winter wheat and the effects of nitrogen, chlormequat and fungicides on land in rotation (pathogen free) and after several cereals (pathogen infected) - Rothamsted (R) Pastures (pathogen free) and Great Harpenden I (pathogen infected) and Woburn (W) Lansome III (pathogen free).

Sponsor: R. Moffitt, J.F. Jenkyn, D.B. Slope.

Design: 4 randomised blocks of 8 plots split into 4 with confounding.

Whole plot dimensions: 4.27 x 27.1.

Treatments: All combinations of:-

Whole plots: 1. Varieties:

	VARIETY
Atou	AT
Bouquet	BO
Cappelle	CA
Flinor	FL
Maris Freeman	FR
Maris Fundin	FU
Maris Huntsman	HU
Maris Templar	TE

Sub plots: 2. Nitrogen fertiliser (kg N):

Pastures (RH)	Gt. Harpenden I (RD) and Lansome III (WH)	N (RH)	N (RD & WH)
None	63 in spring	0	63
63 in spring	126 in spring	63	126
126 in spring	189 in spring	126	189
63 in spring + 63 at flowering	126 in spring + 63 at flowering	63+63	126+63

3. Chlormequat (kg):

	CCC
None	0.0
1.7	1.7

4. Fungicide in early May:

	FUNGCIDE(1)
None	NONE
Carbendazim	CARBENDA

5. Fungicides at flowering:

	FUNGCIDE(2)
None	NONE
Carbendazim + tridemorphe	CARB/TRI

NOTE: Treatment 4 was not applied on Lansome III (W).

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75/R/WW/1 and 75/W/WW/1

Basal applications:

Manures:

Pastures (RH), and Great Harpenden I (RD): (0:20:20) at 310 kg, combine drilled.

Lansome III (WH): (0:20:20) at 290 kg, combine drilled.

Weedkillers:

Pastures (RH): Mecoprop at 1.7 kg plus bromoxynil at 0.14 kg with ioxynil at 0.21 kg and dichlorprop at 0.42 kg in 220 l.

Great Harpenden I (RD): MCPA, mecoprop and dicamba ('Banlene Plus' at 5.6 kg in 220 l).

Lansome III (WH): Ioxynil at 0.63 kg with mecoprop at 1.9 kg in 280 l.

Seed: Sown at 200 kg.

Cultivations, etc.:-

Great Harpenden I (RD): Ploughed: 22 Oct, 1974. Rotary harrowed: 5 Dec. Seed sown: 6 Dec. N applied: 18 Apr, 1975. Weedkiller applied: 12 May. Fungicide applied: 15 May. Chlormequat applied: 20 May. Late N, and fungicides applied: 18 June. Combine harvested: 19 Aug. Previous crops: Barley 1973, winter wheat 1974.

Pastures (RH): Chisel ploughed twice: 9-10 Dec, 1974. Rotary cultivated, seed sown: 20 Dec. N applied: 18 Apr, 1975. Weedkiller applied: 9 May. Fungicide applied: 15 May. Chlormequat applied: 20 May. Late N, and fungicides applied: 18 June. Combine harvested: 15 Aug. Previous crops: Beans 1973, potatoes 1974.

Lansome III (WH): Deep-tine cultivated twice: 31 Oct, 6 Nov, 1974. Spring-tine cultivated twice: 8 Nov, 25 Nov. Seed sown: 26 Nov. N applied: 11 Apr, 1975. Weedkiller applied: 9 May. Chlormequat applied: 22 May. Late N applied: 23 June. Fungicides applied: 1 July. Combine harvested: 15 Aug. Previous crops: Beans 1973, potatoes 1974.

NOTES: (1) Pastures (RH): Samples were taken for assessments of foliar diseases.
(2) Great Harpenden I (RD): Samples were taken for estimates of eyespot (Cercosporella herpotrichoides) and take-all (Gaeumannomyces graminis).
(3) Grain samples were taken from all sites at harvest for assessments of flour quality.

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75/R/WW/1 PASTURES (RH) PATHOGEN FREE

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

VARIETY N	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
0	5.57	5.36	5.03	4.94	6.15	4.90	5.76	5.32	5.38
63	7.42	7.38	7.16	6.84	7.27	7.01	7.68	7.74	7.31
126	8.01	7.88	7.58	7.69	8.01	7.77	8.10	8.11	7.89
63+63	8.34	8.14	7.95	7.62	7.73	8.22	7.89	8.36	8.03
MEAN	7.33	7.19	6.93	6.78	7.29	6.97	7.36	7.38	7.15

VARIETY CCC	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
0.0	7.09	7.08	6.79	6.46	7.51	6.86	7.23	7.54	7.07
1.7	7.58	7.30	7.07	7.10	7.08	7.09	7.48	7.22	7.24
MEAN	7.33	7.19	6.93	6.78	7.29	6.97	7.36	7.38	7.15

VARIETY FUNGCIDE(1)	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
NONE	7.39	7.04	7.03	6.50	7.30	6.87	7.45	7.37	7.12
CARBENDA	7.28	7.34	6.82	7.05	7.29	7.07	7.27	7.39	7.19
MEAN	7.33	7.19	6.93	6.78	7.29	6.97	7.36	7.38	7.15

VARIETY FUNGCIDE(2)	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
NONE	7.33	7.16	6.86	6.66	6.85	6.97	7.39	7.17	7.05
CARB/TRI	7.34	7.22	6.99	6.89	7.73	6.98	7.33	7.59	7.26
MEAN	7.33	7.19	6.93	6.78	7.29	6.97	7.36	7.38	7.15

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

TABLE	N	CCC	FUNGCIDE(1)	FUNGCIDE(2)
SED	0.148	0.105	0.105	0.105

TABLE	VARIETY	N VARIETY
SED	0.168	0.400
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:		
VARIETY		0.419

TABLE	CCC VARIETY	FUNGCIDE(1) VARIETY	FUNGCIDE(2) VARIETY
SED	0.268	0.268	0.268
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY	0.297	0.297	0.297

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75/R/WW/1 GT HARPENDEN I (RD) PATHOGEN INFECTED

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

VARIETY N	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
63	5.01	5.30	4.39	3.83	4.76	3.92	4.63	4.99	4.60
126	6.36	6.07	5.77	5.35	5.83	6.20	6.01	6.59	6.02
189	5.72	5.70	5.50	6.12	5.67	6.02	6.40	6.50	5.95
126+63	6.28	5.94	5.78	6.19	6.62	5.53	6.25	6.94	6.19
MEAN	5.84	5.75	5.36	5.37	5.72	5.42	5.82	6.26	5.69

VARIETY CCC	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
0.0	6.22	5.71	5.27	5.42	5.87	5.63	5.79	6.20	5.76
1.7	5.46	5.80	5.45	5.33	5.57	5.21	5.85	6.32	5.62
MEAN	5.84	5.75	5.36	5.37	5.72	5.42	5.82	6.26	5.69

VARIETY FUNGCIDE(1)	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
NONE	5.79	5.70	5.45	5.36	5.95	5.13	5.89	6.13	5.67
CARBENDA	5.89	5.81	5.27	5.39	5.49	5.70	5.75	6.38	5.71
MEAN	5.84	5.75	5.36	5.37	5.72	5.42	5.82	6.26	5.69

VARIETY FUNGCIDE(2)	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
NONE	5.64	5.88	5.23	5.41	5.67	5.48	5.88	6.24	5.68
CARB/TRI	6.04	5.63	5.49	5.34	5.77	5.35	5.76	6.28	5.71
MEAN	5.84	5.75	5.36	5.37	5.72	5.42	5.82	6.26	5.69

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

TABLE	N	CCC	FUNGCIDE(1)	FUNGCIDE(2)
SED	0.140	0.099	0.099	0.099

TABLE	VARIETY	N VARIETY
SED	0.217	0.406
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:		
VARIETY		0.396

TABLE	CCC VARIETY	FUNGCIDE(1) VARIETY	FUNGCIDE(2) VARIETY
SED	0.294	0.294	0.294
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY	0.280	0.280	0.280

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75/W/WW/1 LANSOME III (W) PATHOGEN FREE

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

VARIETY N	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
63	3.37	3.71	3.60	3.26	3.69	2.66	3.34	3.95	3.45
126	3.82	4.42	4.06	4.33	4.68	3.19	4.11	4.33	4.12
189	4.16	4.19	4.01	4.59	3.86	3.25	3.86	4.33	4.03
126+63	4.14	4.34	4.11	4.44	4.06	2.78	4.05	4.56	4.06
MEAN	3.87	4.17	3.95	4.16	4.07	2.97	3.84	4.29	3.91

VARIETY CCC	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
0.0	3.90	4.08	3.96	4.21	4.16	3.22	3.68	4.44	3.96
0.7	3.84	4.26	3.93	4.10	3.99	2.71	4.00	4.15	3.87
MEAN	3.87	4.17	3.95	4.16	4.07	2.97	3.84	4.29	3.91

VARIETY FUNGCIDE(2)	AT	BO	CA	FL	FR	FU	HU	TE	MEAN
NONE	4.05	4.13	3.75	3.94	4.04	2.98	3.86	4.03	3.85
CARB/TRI	3.69	4.20	4.14	4.37	4.11	2.96	3.82	4.56	3.98
MEAN	3.87	4.17	3.95	4.16	4.07	2.97	3.84	4.29	3.91

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

TABLE	N	CCC	FUNGCIDE(2)	VARIETY
SED	0.100	0.071	0.071	0.334

TABLE	N VARIETY	CCC VARIETY	FUNGCIDE(2) VARIETY
SED	0.414	0.362	0.362
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY	0.283	0.200	0.200

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75/R/WW/1 PASTURES (RH) PATHOGEN FREE

GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	0.237	3.3
BLOCK.WP.SP	40	0.593	8.3

GRAIN MEAN DM% 86.0

SUB PLOT AREA HARVESTED 0.00173

75/R/WW/1 GT HARPENDEN I (RD) PATHOGEN INFECTED

GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	0.306	5.4
BLOCK.WP.SP	40	0.561	9.8

GRAIN MEAN DM% 88.4

SUB PLOT AREA HARVESTED 0.00001

75/W/WW/1 LANSOME III (W) PATHOGEN FREE

GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.472	12.1
BLOCK.WP.SP	14	0.401	10.2

GRAIN MEAN DM% 86.1

SUB PLOT AREA HARVESTED 0.00173

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