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Yields of the Field Experiments 1973

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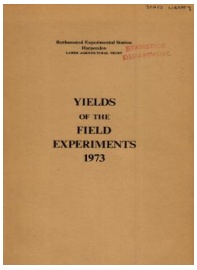

73/R&W/WW/1 - Varieties, H & Ccc - Winter Wheat

Rothamsted Research

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73/R/WW/1 and 73/W/WW/1

WINTER WHEAT

VARIETIES, N AND CCC

Object: To study the effects of chlormequat (CCC) and a range of nitrogen levels on growth and yield of a selection of the newer varieties of wheat grown on land in rotation or after several cereals. Nitrogen applied at flowering is also tested and flour quality is determined - Rothamsted (R) Delafield (pathogen free) and Meadow (pathogen infected) and Woburn (W) Horsepool Lane Close (pathogen free).

Sponsors: J.R. Moffatt, R. Moffitt.

Design: 4 randomised blocks of 8 plots, split into 4, with confounding, on Delafield (R) and Horsepool Lane Close (W).
3 randomised blocks of 9 plots, split into 4 on Meadow (R).

Whole plot dimensions: 4.27 x 27.1. Sub plot area harvested: 0.00173.

Treatments: All combinations of:-

		VARIETY
Whole plots:	Varieties	
	Atou	AT
	Bouquet	BO
	Cappelle	CA
	Champlein, Meadow (R) only	CH
	Maris Freeman	MF
	Maris Huntsman	MH
	Maris Nimrod	MN
	Maris Templar	MT
	Maris Widgeon	MW
Sub plots:	2. Nitrogen fertiliser (kg N):	N
	63 in spring	63
	126 in spring	126
	189 in spring	189
	126 in spring plus 63 at flowering	126+63
	3. Chlormequat (kg):	CCC
	None	0.0
	1.7	1.7

NOTE: The test of chlormequat was omitted on Meadow (R). On Delafield (R) and Horsepool Lane Close (W) it was applied in 427 l.

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Basal applications:

Delafield (R), and Meadow (R): Manures: (0:20:20) at 310 kg broadcast by machine. Weedkiller: Dicamba, mecoprop and MCPA ('Tetralex Plus' at 7.0 l in 220 l).

Horsepool Lane Close (W): Manures: (0:20:20) at 300 kg combine drilled. Weedkiller: Ioxynil at 0.63 kg plus mecoprop at 1.9 kg in 280 l.

Seed: Delafield (R) and Meadow (R): Varieties sown at 200 kg.
Horsepool Lane Close (W): Varieties sown at 190 kg.

Cultivations, etc.:-

Delafield (R): Deep-tine cultivated twice, PK applied, seed sown: 27 Oct, 1972. N applied : 6 Apr, 1973. Weedkiller applied: 18 Apr. CCC applied: 30 May. Late N applied: 12 June. Combine harvested: 23 Aug. Previous crops: Fallow 1971, potatoes 1972.

Meadow (R): Deep-tine cultivated: 6 Oct, 1972. Rotary harrowed: 25 Oct. PK applied, seed sown: 27 Oct. N applied: 5 Apr, 1973. Weedkiller applied: 16 Apr. Late N applied: 12 June. Combine harvested: 24 Aug. Previous crops: Barley 1971, 1972.

Horsepool Lane Close (W): Deep-tine cultivated: 17 Oct, 1972. PK applied, seed sown: 24 Oct. Weedkiller applied: 13 Apr, 1973. N applied: 17 Apr. CCC applied: 31 May. Late N applied: 13 June. Combine harvested: 17 Aug. Previous crops: Fallow 1971, potatoes 1972.

Standard errors per plot. Grain, tonnes/hectare:

Delafield (R):	Whole plot:	0.280	or 4.0% (13 d.f.)
	Sub plot:	0.603	or 8.5% (48 d.f.)
Meadow (R):	Whole plot:	0.398	or 7.8% (16 d.f.)
	Sub plot:	0.592	or 11.6% (54 d.f.)
Horsepool Lane Close (W):	Whole plot:	0.463	or 7.3% (13 d.f.)
	Sub plot:	0.510	or 8.0% (48 d.f.)

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73/R/WW/1 and 73/W/WW/1

TABLE OF MEANS

DELAFIELD (R): PATHOGEN FREE

GRAIN: TONNES/HECTARE

VARIETY

	AT	BO	CA	MT	MH	MN	MT	MW	Mean
N									
63	7.62	6.99	6.93	7.27	8.41	8.35	8.55	6.75	7.61
126	7.32	6.29	5.24	7.38	8.75	7.92	8.35	6.09	7.17
189	6.09	5.17	4.83	6.24	7.97	6.47	7.65	4.91	6.17
126+63	7.57	6.46	6.05	7.03	8.42	8.47	8.62	5.59	7.28
CCC									
0.0	7.02	6.11	5.37	6.59	8.00	7.59	8.28	5.29	6.77
1.7	7.28	6.34	6.15	7.37	8.78	8.02	8.30	6.47	7.34
Mean	7.15	6.23	5.76	6.98	8.39	7.80	8.29	5.84	7.06

N

	63	126	189	126+63
CCC				
0.0	7.54	6.87	5.84	6.84
1.7	7.68	7.47	6.49	7.72

STANDARD ERRORS OF DIFFERENCES

VARIETY	N	CCC	VARIETY N	VARIETY CCC	N CCC
0.198	0.151	0.107	0.419	0.291	0.213

Except when comparing means with same level of

VARIETY			0.426	0.302	
N					0.210
CCC					0.210

Mean D.M. % 85.7

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MEADOW (R)

GRAIN: TONNES/HECTARE

VARIETY

N	AT	BO	CA	CH	MF	MH	MN	MT	MW	Mean
63	4.91	4.58	4.76	5.95	4.99	5.39	6.94	5.31	5.02	5.32
126	4.88	4.57	4.44	5.66	4.72	5.15	5.55	5.37	4.08	4.94
189	5.00	3.92	4.79	5.86	4.51	5.51	5.91	6.12	3.85	5.05
126+63	5.57	5.19	4.73	5.74	4.96	4.87	5.55	5.51	4.08	5.13
Mean	5.09	4.56	4.68	5.80	4.79	5.23	5.99	5.58	4.26	5.11

STANDARD ERRORS OF DIFFERENCES

VARIETY	N	VARIETY N
0.325	0.161	0.530
Except when comparing means with same level of VARIETY		0.483

Mean D.M. % 87.6

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73/R/WW/1 and 73/W/WW/1

HORSEPOOL LANE CLOSE (W)

GRAIN: TONNES/HECTARE

VARIETY

	AT	BO	CA	MF	MH	MN	MT	MW	Mean
N									
63	6.49	6.04	6.24	6.29	7.37	7.40	6.82	6.05	6.59
126	6.46	6.24	5.25	6.51	7.48	7.06	7.05	5.77	6.48
189	5.97	5.70	4.92	5.65	7.55	6.63	6.92	5.05	6.05
126+63	6.37	6.50	5.18	5.89	7.43	7.04	7.38	5.14	6.37
CCC									
0.0	6.28	6.31	5.14	6.20	7.48	7.08	7.17	5.04	6.34
1.7	6.37	5.93	5.65	5.97	7.43	6.98	6.91	5.97	6.40
Mean	6.32	6.12	5.40	6.08	7.46	7.03	7.04	5.50	6.37

N

	63	126	189	126+63
CCC				
0.0	6.62	6.48	6.03	6.23
1.7	6.56	6.48	6.07	6.50

STANDARD ERRORS OF DIFFERENCES

VARIETY	N	CCC	VARIETY N	VARIETY CCC	N CCC
0.328	0.127	0.090	0.453	0.374	0.180

Except when comparing means with same level of

VARIETY	0.360	0.255	
N			0.226
CCC			0.226

Mean D.M. % 84.4

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