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Yields of the Field Experiments 1979

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79/R/WW/4 Seed Rates and Divided N Dressings - W. Wheat

Rothamsted Research

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79/R/WW/4

WINTER WHEAT

SEED RATES AND DIVIDED N DRESSINGS

Object: To study the effects of seed rates and rates and times of applying nitrogen fertiliser on the growth and yield of winter wheat - Gt. Harpenden II.

Sponsors: J. McEwen, R. Moffitt.

Design: 2 randomised blocks of 2 x 4 x 3.

Whole plot dimensions: 4.26 x 9.14.

Treatments: All combinations of:-

1. SEEDRATE — Seed rate (kg):

   100
   200

2. TOTAL N — Total nitrogen fertiliser (kg N):

   75
   100
   125
   150

3. N TIME — Times of applying nitrogen fertiliser:

MA	25 kg N of the total applied 23 Mar, remainder 17 Apr
A	All applied 17 Apr
MAJ	25 kg N of the total applied 23 Mar, 25 kg N applied 18 June, remainder 17 Apr

Basal applications: Manures: (0:20:20) at 310 kg. Weedkillers: Dicamba, mecoprop and MCPA (as 'Banlene Plus' at 4.2 kg in 220 l). Fungicides: Triadimefon at 0.13 kg in 220 l. Growth regulator: Chlormequat at 1.7 kg in 220 l.

Seed: Flanders.

Cultivations, etc.:- Ploughed: 11 Oct, 1978. Rotary harrowed, PK applied: 16 Oct. Rotary harrowed: 17 Oct. Seed sown: 18 Oct. Growth regulator applied: 3 May. Weedkillers applied: 8 May. Fungicide applied: 27 June. Combine harvested: 29 Aug. Previous crops: Barley 1977, beans 1978.

NOTES: (1) Nitrate contents in stems were estimated at intervals during the season.
(2) Tiller counts were made in April and ear counts in July.
(3) 1000 grain weights were measured and grain was analysed for N percentage.

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79/R/WW/4

GRAIN TONNES/HECTARE

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

TOTAL N SEEDRATE	75	100	125	150	MEAN
100	5.89	6.58	6.54	6.72	6.43
200	6.45	6.71	7.50	7.50	7.04
MEAN	6.17	6.64	7.02	7.11	6.74

N TIME SEEDRATE	MA	A	MAJ	MEAN
100	6.79	6.47	6.05	6.43
200	6.92	7.29	6.91	7.04
MEAN	6.85	6.88	6.48	6.74

N TIME TOTAL N	MA	A	MAJ	MEAN
75	6.86	6.37	5.27	6.17
100	6.38	6.77	6.77	6.64
125	7.07	7.23	6.77	7.02
150	7.10	7.13	7.10	7.11
MEAN	6.85	6.88	6.48	6.74

SEEDRATE	N TIME TOTAL N	MA	A	MAJ
100	75	6.60	6.06	5.00
	100	6.73	6.56	6.44
	125	6.77	6.76	6.10
	150	7.06	6.48	6.64
200	75	7.12	6.68	5.55
	100	6.03	6.98	7.11
	125	7.37	7.70	7.43
	150	7.14	7.79	7.56

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

TABLE	SEEDRATE	TOTAL N	N TIME	SEEDRATE TOTAL N
SED	0.167	0.237	0.205	0.334

TABLE	SEEDRATE N TIME	TOTAL N N TIME	SEEDRATE TOTAL N N TIME
SED	0.290	0.410	0.579

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

STRATUM	DF	SE	CV%
BLOCK.WP	23	0.579	8.6

MEAN DM% 83.8

PLOT AREA HARVESTED 0.00290

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