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82/R/WW/4 Seed Rates & Divided N Dressings - Winter Wheat

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82/R/WW/4

WINTER WHEAT

SEED RATES & DIVIDED N DRESSINGS

Object: To study the effects of a range of rates of early nitrogen dressings on the growth and yield of wheat sown at one third or at standard seed rate - White Horse I.

Sponsors: J. McEwen, R. Moffitt.

Design: 2 randomised blocks of 30 plots.

Whole plot dimensions: 4.27 x 8.08.

Treatments: All combinations of:-

1. SD RATE Seed rates (kg):

67
200

2. EARLY N Nitrogen fertilizer applied 11 Feb, 1982 (kg N) as 'Nitro-Chalk':

0
25
50
75

3. APRIL N Nitrogen fertilizer applied 13 Apr, 1982 (kg N) as 'Nitro-Chalk':

75
100
125

plus extra treatments, all combinations of:-

1. SD RATEX Seed rates (kg):

67
200

2. APRIL NX Nitrogen fertilizer applied 13 Apr, 1982 (kg N):

150
175
200

Basal applications: Weedkillers: Paraquat at 0.56 kg ion in 220 l. Methabenzthiazuron at 1.6 kg in 250 l. Fungicides: Propiconazole at 0.12 kg in 250 l. Carbendazim, maneb and tridemorph (as 'Cosmic' at 4.0 kg) with captafol at 1.2 kg applied with the pirimicarb in 250 l. Insecticides: Omethoate at 0.64 kg in 250 l. Pirimicarb at 0.14 kg. Growth regulator: Chlormequat at 1.7 kg in 250 l.

Seed: Flanders.

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Cultivations, etc.:- Heavy spring-tine cultivated twice: 28 Aug, 1981. Paraquat applied: 23 Sept. Heavy spring-tine cultivated: 29 Sept. Spring-tine cultivated: 13 Oct. Seed sown: 14 Oct. Methabenzthiazuron applied: 17 Oct. Omethoate applied: 5 Apr, 1982. Growth regulator applied: 27 Apr. Propiconazole applied: 26 May. Carbendazim, maneb, tridemorph with captafol and pirimicarb applied: 15 June. Combine harvested: 21 Aug. Previous crops: W. beans 1980 and W. oats 1981.

NOTES: (1) Plant counts were made in February, shoot counts in April and ear counts in June.
 (2) 1000 grain weights and N content of grain were measured.

GRAIN TONNES/HECTARE

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

EARLY N	0	25	50	75	MEAN
SD RATE					
67	6.80	7.62	7.15	7.15	7.18
200	7.73	7.23	8.30	7.66	7.73
MEAN	7.26	7.43	7.72	7.40	7.45
APRIL N	75	100	125	MEAN	
SD RATE					
67	7.06	7.16	7.32	7.18	
200	7.31	7.72	8.16	7.73	
MEAN	7.19	7.44	7.74	7.45	
APRIL N	75	100	125	MEAN	
EARLY N					
0	7.09	7.18	7.52	7.26	
25	6.94	7.47	7.86	7.43	
50	7.39	7.39	8.39	7.72	
75	7.33	7.70	7.18	7.40	
MEAN	7.19	7.44	7.74	7.45	
SD RATE	APRIL N	75	100	125	
67	EARLY N				
	0	6.85	6.72	6.83	
	25	7.73	7.47	7.66	
	50	6.87	6.70	7.89	
	75	6.80	7.75	6.89	
200	0	7.33	7.65	8.20	
	25	6.16	7.48	8.06	
	50	7.92	8.09	8.89	
	75	7.85	7.65	7.48	

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GRAIN TONNES/HECTARE

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

APRIL NX	150	175	200	MEAN
SD RATEX				
67	6.82	6.45	8.28	7.18
200	8.24	7.39	7.68	7.77
MEAN	7.53	6.92	7.98	7.48

GRAND MEAN 7.46

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

TABLE	SD RATE	EARLY N	APRIL N	SD RATE EARLY N
SED	0.216	0.305	0.264	0.431

TABLE	SD RATE APRIL N	EARLY N APRIL N	SD RATE EARLY N APRIL N	SD RATEX
SED	0.373	0.528	0.747	0.431

SED	0.373	0.528	0.747	0.431
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TABLE	APRIL NX	SD RATEX APRIL NX
	0.528	0.747

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.747	10.0

GRAIN MEAN DM% 84.1

PLOT AREA HARVESTED 0.00252