

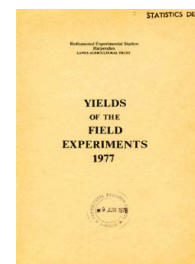
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77/S/WW/1 Rates and Times of N and Fungicide - W. Wheat

Rothamsted Research

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77/S/WW/1

WINTER WHEAT

RATES AND TIMES OF N AND FUNGICIDE

Object: To study the effects of fungicide and rates and times of applying nitrogen fertiliser on the incidence of foliar diseases and on yield - Saxmundham.

Sponsors: F.V. Widdowson, A. Penny.

Design: Single replicate of 4 x 2 x 2 x 2 fully randomised plus 4 extra plots.

Whole plot dimensions: 2.74 x 6.10.

Treatments: All combinations of:-

1. S N RATE Rates of solid nitrogen fertiliser (kg N):

0
50
100
150

2. S N TIME Times of applying solid nitrogen fertiliser:

APRIL 28 April
MAY 19 May

3. L N RATE Rates of applying liquid nitrogen fertiliser, half on 16 June, half on 6 July (kg N):

0
50

4. FUNGICIDE Foliar spray to control fungi:

NONE None
B+MB+MZ Benomyl + maneb + mancozeb

plus four extra plots not given liquid fertiliser but given benomyl + maneb + mancozeb as above, and testing solid nitrogen as follows (kg N):-

XTRA S N	G.S.3(16 Mar)		G.S.5(28 Apr)		G.S.8(25 May)	
20+60+20	20	+	60	+	20	(duplicated)
30+90+30	30	+	90	+	30	(duplicated)

NOTE: Benomyl applied at 0.28 kg with mancozeb plus maneb ('Kascade' at 2.24 kg) in 340 l on 19 May, 16 June, 6 July.

Basal applications: Manures: K20 at 150 kg as muriate of potash. (30:13:0) at 190 kg. Weedkillers: Ioxynil at 0.53 kg with mecoprop at 1.6 kg in 340 l. Growth regulator: Chlormequat at 1.7 kg in 340 l.

Seed: Maris Huntsman, broadcast at 200 kg.

Cultivations, etc.:- K applied: 17 Aug, 1976. Ploughed 3 Sept. Seed broadcast, NP applied: 23 Nov. Spring-tine cultivated: 24 Nov. Weedkillers applied: 14 May, 1977. Growth regulator applied: 19 May. Combine harvested: 1 Sept. Previous crops: Beans 1975, wheat 1976.

77/S/WW/1

GRAIN TONNES/HECTARE

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

INCLUDING S N RATE 0

S N RATE	0	50	100	150	MEAN
L N RATE					
0	3.20	4.72	5.29	5.76	4.74
50	3.61	4.64	4.77	5.71	4.68
MEAN	3.40	4.68	5.03	5.74	4.71

S N RATE	0	50	100	150	MEAN
FUNGICIDE					
NONE	3.38	4.80	4.78	5.43	4.60
B+MB+MZ	3.42	4.56	5.28	6.04	4.83
MEAN	3.40	4.68	5.03	5.74	4.71

FUNGICIDE	NONE	B+MB+MZ	MEAN
L N RATE			
0	4.65	4.84	4.74
50	4.55	4.82	4.68
MEAN	4.60	4.83	4.71

EXCLUDING S N RATE 0

S N RATE	50	100	150	MEAN
S N TIME				
APRIL	5.49	5.84	6.53	5.95
MAY	3.88	4.22	4.94	4.35
MEAN	4.68	5.03	5.74	5.15

L N RATE	0	50	MEAN
S N TIME			
APRIL	6.06	5.85	5.95
MAY	4.46	4.24	4.35
MEAN	5.26	5.04	5.15

FUNGTIME	NONE	B+MB+MZ	MEAN
S N TIME			
APRIL	5.63	6.27	5.95
MAY	4.38	6.38	4.35
MEAN	5.01	5.29	5.15

XTRA S N	20+60+20	30+90+30	MEAN
	6.19	6.69	6.44

GRAND MEAN 4.91

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GRAIN TONNES/HECTARE

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

TABLE	XTRA S N	L N RATE	FUNGCIDE	S N RATE
SED	0.369	0.131 0.151*	0.131 0.151*	0.185

TABLE	S N TIME	L N RATE FUNGCIDE	S N RATE S N TIME	S N RATE L N RATE
SED	0.151	0.185	0.261	0.261

TABLE	S N TIME L N RATE	S N RATE FUNGCIDE	S N TIME FUNGCIDE
SED	0.213	0.261	0.213

* USE ONLY WITH TABLES EXCLUDING S N RATE 0

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

STRATUM	DF	SE	CV%
WP	15	0.369	7.5

GRAIN MEAN DM% 76.8

PLOT AREA HARVESTED 0.00089