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81/S/B/1 Amounts and Times of N, Growth Regulator and Pathogen Control - W. Barley

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81/S/B/1

WINTER BARLEY

AMOUNTS AND TIMES OF N, GROWTH REGULATOR AND PATHOGEN CONTROL

Object: To study the effects of two rates of nitrogen, applied as single or divided dressings, with or without growth regulator and control of pests and pathogens - Saxmundham, Grove Plot.

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

Design: 2 randomised blocks of 18 plots.

Whole plot dimensions: 3.05 x 6.40.

Treatments: All combinations of:-

1. N RATE Total nitrogen fertiliser applied (kg N):
 120
 160
2. N TIME Times of applying nitrogen fertiliser:
 SINGLE All on 14 April, 1981
 DIVIDED 40 kg N on 19 February, remainder on 14 April
3. GRTH REG Growth regulator:
 NONE None
 MEP+ETH Mepiquat chloride + ethephon (as 'Terpal' at 2.8 l) on 30 April
4. PATHCONT Pest and pathogen control:
 NONE None
 FULL Fungicides and insecticide

plus two extra plots not given nitrogen fertiliser or growth regulator:

- EXTRA
0 0 0 0 No pest & pathogen control
0 0 0 PC Pest & pathogen control as for PATHCONT FULL above

NOTE: (1) PATHCONT FULL consisted of carbendazim (as 'Bavistin' at 0.50 kg) with tridemorph at 0.53 kg in 280 l applied on 14 April, and benodanil at 1.12 kg with tridemorph at 0.53 kg and pirimicarb at 0.14 kg in 280 l applied on 20 May.
(2) Growth regulator was applied in 220 l.

Basal applications: Manures: (0:14:28) at 315 kg. (15:15:15) at 260 kg, combine drilled. Weedkillers: Isoproturon at 2.5 l in 220 l. Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 220 l.

Seed: Igri, sown at 170 kg.

Cultivations, etc.: - PK applied: 27 Aug, 1980. Ploughed: 8 Sept. Seed sown, isoproturon applied: 24 Sept. 'Brittox' applied: 7 Apr, 1981. Combine harvested: 27 July. Previous crop: W. wheat 1980.

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NOTE: N content of grain was determined. Height of straw from ground to base of ear was measured in early July.

GRAIN TONNES/HECTARE

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

N RATE	120	160	MEAN
PATHCONT			
NONE	5.79	6.51	6.15
FULL	6.53	6.86	6.69
MEAN	6.16	6.68	6.42
GRTH REG	NONE	MEP+ETH	MEAN
PATHCONT			
NONE	6.29	6.01	6.15
FULL	6.68	6.70	6.69
MEAN	6.49	6.36	6.42
GRTH REG	NONE	MEP+ETH	MEAN
N RATE			
120	6.13	6.19	6.16
160	6.84	6.52	6.68
MEAN	6.49	6.36	6.42
N TIME	SINGLE	DIVIDED	MEAN
PATHCONT			
NONE	5.95	6.36	6.15
FULL	6.57	6.82	6.69
MEAN	6.26	6.59	6.42
N TIME	SINGLE	DIVIDED	MEAN
N RATE			
120	6.11	6.21	6.16
160	6.40	6.96	6.68
MEAN	6.26	6.59	6.42
N TIME	SINGLE	DIVIDED	MEAN
GRTH REG			
NONE	6.39	6.58	6.49
MEP+ETH	6.13	6.59	6.36
MEAN	6.26	6.59	6.42
PATHCONT	GRTH REG	NONE	MEP+ETH
NONE	N RATE		
	120	5.93	5.66
	160	6.66	6.36
FULL	120	6.34	6.72
	160	7.03	6.69

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GRAIN TONNES/HECTARE

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

		N TIME	SINGLE	DIVIDED	
PATHCONT	N RATE				
NONE	120		5.72		5.87
	160		6.18		6.84
FULL	120		6.51		6.54
	160		6.63		7.09
		N TIME	SINGLE	DIVIDED	
PATHCONT	GRTH REG				
NONE	NONE		6.06		6.52
	MEP+ETH		5.83		6.19
FULL	NONE		6.72		6.65
	MEP+ETH		6.42		6.98
		N TIME	SINGLE	DIVIDED	
N RATE	GRTH REG				
120	NONE		6.10		6.16
	MEP+ETH		6.13		6.25
160	NONE		6.68		7.01
	MEP+ETH		6.13		6.92
		GRTH REG	NONE	MEP+ETH	
PATHCONT	N TIME	SINGLE	DIVIDED	SINGLE	DIVIDED
NONE	120	5.84	6.01	5.59	5.74
	160	6.29	7.03	6.08	6.64
FULL	120	6.37	6.31	6.66	6.77
	160	7.07	6.98	6.18	7.20
EXTRA	0 0 0 0	0 0 0 PC	MEAN		
	3.18	3.54	3.36		
GRAND MEAN	6.08				

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GRAIN TONNES/HECTARE

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

TABLE	PATHCONT	N RATE	GRTH REG	N TIME
SED	0.163	0.163	0.163	0.163
TABLE	PATHCONT N RATE	PATHCONT GRTH REG	N RATE GRTH REG	PATHCONT N TIME
SED	0.231	0.231	0.231	0.231
TABLE	N RATE N TIME	GRTH REG N TIME	PATHCONT N RATE GRTH REG	PATHCONT N RATE N TIME
SED	0.231	0.231	0.327	0.327
TABLE	PATHCONT GRTH REG N TIME	N RATE GRTH REG N TIME	PATHCONT N RATE GRTH REG N TIME	
SED	0.327	0.327	0.462	

SED FOR EXTRA AND COMPARING EXTRA WITH ANY ITEM IN
 PATHCONT.N RATE.GRTH REG.N TIME
 TABLE IS 0.462

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	0.462	7.6

GRAIN MEAN DM% 80.4

PLOT AREA HARVESTED 0.00088