

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1981

[Full Table of Content](#)



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

Rothamsted Research

Rothamsted Research (1982) *81/S/B/1 Amounts and Times of N, Growth Regulator and Pathogen Control - W. Barley* ; Yields Of The Field Experiments 1981, pp 292 - 295 - DOI:
<https://doi.org/10.23637/ERADOC-1-35>

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.

81/S/B/1

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

81/S/B/1

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	
		N TIME	SINGLE	DIVIDED	SINGLE	DIVIDED
PATHCONT		N RATE				
	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					

81/S/B/1

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