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74/S/B/1 Varieties, N and Fungicide - Barley

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74/S/B/1

SPRING BARLEY

VARIETIES, N AND FUNGICIDE

Object: To study the effects of three nitrogen levels, applied to seedbed or as a top dressing, on the yield of three barley varieties. The effects of a fungicide against brown rust are also studied - Saxmundham, Grove Plot.

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

Design: 3 randomised blocks of 9 plots split into 2.

Whole plot dimensions: 2.44 x 12.2. Sub plot area harvested: 0.00051.

Treatments: All combinations of:-

Whole plots: 1. Varieties:

Julia	VARIETY
Mazurka	Julia
Midas	Mazurka
	Midas

2. Nitrogen fertiliser (kg N):

50	N RATE
100	50
150	100
	150

3. Time of applying nitrogen:

All to seedbed on 21 Mar, 1974	N TIME
Half to seedbed, half top dressed on 21 May	Seedbed
All top dressed on 21 May	SB/TD
	Topdress

Sub plots: 4. Fungicide spray against brown rust:

None	FUNGICIDE
Benodanil ('BAS 3170F') at 2.8 kg	None
in 560 l on 19 June and 10 July, 1974	Benodanil

NOTE: Nitrogen was applied as calcium nitrate.

Basal applications: Manures: (0:20:20) at 290 kg. Weedkiller: Dicamba with dichlorprop and MCPA ('Mephetol Extra' at 5.6 l in 560 l). Fungicide: Tridemorph at 0.53 kg in 560 l.

Seed: All varieties, dressed with ethirimol, sown at 190 kg.

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Cultivations, etc.:— Ploughed: 9 Oct, 1973. Basal PK applied and seed sown: 21 Mar, 1974. Tridemorph applied: 21 May. Harvested by hand: 21 Aug. Previous crops: Barley 1972 and 1973.

NOTES: (1) Brown rust (*Puccinia hordei*) and mildew (*Erysiphe graminis*) were assessed on 10 July.
(2) There was evidence of a fertility trend across the site and yields adjusted for trend are presented.

Standard errors per plot. Grain: tonnes/hectare.

Whole plot: 0.176 or 3.8% (6 d.f.)

Sub plot: 0.307 or 6.6% (7 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

	N RATE			N TIME			FUNGICIDE		Mean
	50	100	150	Seedbed	SB/TD	Topdress	None	Benodanil	
VARIETY									
Julia	4.15	5.01	5.07	5.13	4.87	4.23	4.61	4.88	4.74
Mazurka	3.44	4.70	4.92	4.42	4.46	4.18	4.38	4.33	4.35
Midas	3.90	4.85	5.55	5.25	4.99	4.05	4.55	4.99	4.77
	N RATE								
		50		4.18	3.87	3.44	3.76	3.90	3.83
		100		5.00	5.13	4.43	4.78	4.93	4.86
		150		5.63	5.32	4.60	5.01	5.35	5.18
				N TIME					
				Seedbed			4.96	4.91	4.94
				SB/TD			4.66	4.89	4.78
				Topdress			3.93	4.39	4.16
Mean							4.51	4.73	4.62

STANDARD ERRORS OF DIFFERENCES

VARIETY	N RATE	N TIME	FUNGICIDE	VARIETY N RATE	VARIETY N TIME	N RATE N TIME
0.083	0.083	0.083	0.084	0.144	0.144	0.144
				VARIETY FUNGICIDE	N RATE FUNGICIDE	N TIME FUNGICIDE
				0.134	0.132	0.134
Except when comparing means with same levels of:						
VARIETY				0.147		
N RATE					0.145	
N TIME						0.147

Mean D.M. % 86.2

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STRAW: TONNES/HECTARE

	N RATE			N TIME			FUNGICIDE		Mean
	50	100	150	Seedbed	SB/TD	Topdress	None	Benodanil	
VARIETY									
Julia	2.95	3.70	3.65	3.80	3.48	3.01	3.37	3.49	3.43
Mazurka	3.19	3.96	4.20	4.45	3.57	3.32	3.67	3.89	3.78
Midas	2.90	3.68	4.04	4.12	3.56	2.95	3.55	3.53	3.54
	N RATE								
		50		3.60	2.91	2.53	2.96	3.06	3.01
		100		4.18	3.84	3.32	3.71	3.85	3.78
		150		4.59	3.86	3.43	3.93	4.00	3.96
				N TIME					
				Seedbed			4.04	4.21	4.12
				SB/TD			3.53	3.55	3.54
				Topdress			3.03	3.16	3.09
Mean							3.53	3.64	3.59

Mean D.M. % 82.5