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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:

	VARIETY
Julia	Julia
Mazurka	Mazurka
Midas	Midas

2. Nitrogen fertiliser (kg N):

	N RATE
50	50
100	100
150	150

3. Time of applying nitrogen:

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

Sub plots: 4. Fungicide spray against brown rust:

	FUNGICIDE
None	None
Benodanil ('BAS 3170F') at 2.8 kg 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

VARIETY	N RATE			N TIME			FUNGICIDE		Mean
	50	100	150	Seedbed	SB/TD	Topdress	None	Benodani	
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

VARIETY	N RATE			N TIME			FUNGICIDE		Mean
	50	100	150	Seedbed	SB/TD	Topdress	None	Benodanil	
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