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Yields of the Field Experiments 1975

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75/ S/B/1 - Varieties, N & Fungicides - Barley

Rothamsted Research

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75/S/B/1

SPRING BARLEY

VARIETIES, N AND FUNGICIDES

Object: To study the effects of rates, times and forms of nitrogen and of fungicides on the incidence of foliar diseases and yields of two varieties of barley - Saxmundham, Grove Plot.

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

Design: Single replicate of 32 plots split into 2.

Whole plot dimensions: 2.43 x 12.2.

Treatments: All combinations of:-

Whole plots: 1. Varieties:

Julia
Wing

VARIETY

JULIA
WING

2. Solid nitrogen fertiliser (kg N):

50
100

S N

50
100

3. Time of applying solid nitrogen fertiliser:

S N TIME

Seedbed on 28 Apr
Top dressed on 29 May

SEEDBED
TOPDRESS

4. Liquid nitrogen fertiliser (kg N):

L N

None
50 (half on 26 June, half on 17 July)

0
50

5. Mildew control:

MILD CON

None
Seed dressed ethirimol crop sprayed
tridemorph at 0.53 kg in 280 l on 26 June

NONE

ETH/TRID

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Sub plots: 6. Rust control:

RUST CON

None

NONE

Crop sprayed benodanil at 1.12 kg
in 280 l on 26 June, 17 July

BENODANI

NOTE: 'Nitro-Chalk' was used as solid fertiliser 'Agsol N26' as
liquid fertiliser in 75 litres.

Basal applications: Manures: (0:20:20) at 310 kg. Weedkiller: Dichlorprop
plus MCPA ('Mephetol Plus' at 5.6 l in 340 l),

Seed: Sown at 190 kg.

Cultivations, etc.: - Ploughed: 15 Oct, 1974. Seed sown: 28 Apr, 1975.
Weedkiller applied: 11 June. Combine harvested: 20 Aug. Previous
crops: Barley 1973 and 1974.

NOTE: Mildew (*Erysiphe graminis*), brown rust (*Puccinia hordei*) and
yellow rust (*P. striiformis*) were assessed on 29 July.

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BARLEY

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

S N	50	100	MEAN
VARIETY			
JULIA	3.33	3.66	3.49
WING	3.60	3.86	3.73
MEAN	3.46	3.76	3.61
S N TIME	SEEDBED	TOPDRESS	MEAN
VARIETY			
JULIA	3.70	3.28	3.49
WING	4.09	3.37	3.73
MEAN	3.89	3.33	3.61
S N TIME	SEEDBED	TOPDRESS	MEAN
S N			
50	3.82	3.11	3.46
100	3.97	3.54	3.76
MEAN	3.89	3.33	3.61
L N	0	50	MEAN
VARIETY			
JULIA	3.38	3.60	3.49
WING	3.61	3.84	3.73
MEAN	3.50	3.72	3.61
L N	0	50	MEAN
S N			
50	3.32	3.61	3.46
100	3.63	3.84	3.76
MEAN	3.50	3.72	3.61
L N	0	50	MEAN
S N TIME			
SEEDBED	3.35	3.94	3.89
TOPDRESS	3.15	3.50	3.33
MEAN	3.50	3.72	3.61
MILD CON	NONE	ETH/TRID	MEAN
VARIETY			
JULIA	3.31	3.67	3.49
WING	3.65	3.81	3.73
MEAN	3.48	3.74	3.61
MILD CON	NONE	ETH/TRID	MEAN
S N			
50	3.31	3.61	3.46
100	3.65	3.86	3.76
MEAN	3.48	3.74	3.61

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BARLEY

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

MILD CON S N TIME	NONE	ETH/TRID	MEAN
SEEDBED	3.81	3.98	3.89
TOPDRESS	3.15	3.50	3.33
MEAN	3.48	3.74	3.61

MILD CON L N	NONE	ETH/TRID	MEAN
0	3.39	3.61	3.50
50	3.57	3.87	3.72
MEAN	3.48	3.74	3.61

RUST CON VARIETY	NONE	BENODANI	MEAN
JULIA	3.37	3.61	3.49
WING	3.69	3.77	3.73
MEAN	3.53	3.69	3.61

RUST CON S N	NONE	BENODANI	MEAN
50	3.34	3.59	3.46
100	3.72	3.79	3.76
MEAN	3.53	3.69	3.61

RUST CON S N TIME	NONE	BENODANI	MEAN
SEEDBED	3.73	4.06	3.89
TOPDRESS	3.33	3.32	3.33
MEAN	3.53	3.69	3.61

RUST CON L N	NONE	BENODANI	MEAN
0	3.47	3.53	3.50
50	3.59	3.85	3.72
MEAN	3.53	3.69	3.61

RUST CON MILD CON	NONE	BENODANI	MEAN
NONE	3.46	3.51	3.48
ETH/TRID	3.60	3.87	3.74
MEAN	3.53	3.69	3.61

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GRAIN TONNES/HECTARE

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

TABLE	VARIETY	S N	S N TIME	L N
SED	0.102	0.102	0.102	0.102
TABLE	MILD CON	RUST CON	VARIETY S N	VARIETY S N TIME
SED	0.102	0.122	0.144	0.144
TABLE	S N S N TIME	VARIETY L N	S N L N	S N TIME L N
SED	0.144	0.144	0.144	0.144
TABLE	VARIETY MILD CON	S N MILD CON	S N TIME MILD CON	L N MILD CON
SED	0.144	0.144	0.144	0.144
TABLE	VARIETY RUST CON	S N RUST CON	S N TIME RUST CON	L N RUST CON
SED	0.159	0.159	0.159	0.159
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY	0.172			
S N		0.172		
S N TIME			0.172	
L N				0.172
TABLE	MILD CON RUST CON			
REP	16			
SED	0.159			
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
MILD CON	0.172			

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

STRATUM	DF	SE	CV%
WP	6	0.289	8.0
WP.SP	16	0.487	13.5

GRAIN MEAN DM% 82.2

SUB PLOT AREA HARVESTED 0.00073