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Yields of the Field Experiments 1976

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76/S/B/1 Varieties, N and Fungicides - Barley

Rothamsted Research

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76/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. VARIETY Varieties:

JULIA	Julia
WING	Wing

2. S N Solid nitrogen fertiliser (kg N):

50	50
100	100

3. S N TIME Time of applying solid nitrogen fertiliser:

SEEDBED	Seedbed on 16 Mar
TOPDRESS	Top dressed on 18 May

4. L N Liquid nitrogen fertiliser (kg N):

0	None
50	50, half on 15 June, half on 8 July

5. MILD CON Mildew control:

NONE	None
ETH/TRID	Seed dressed eithirimol, crop sprayed tridemorph at 0.53 kg in 280 l on 18 May

Sub plots

6. RUST CON Rust control:

NONE	None
BENODANI	Crop sprayed benodanil at 1.12 kg in 280 l on 15 June, 8 July

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

76/S/B/1

Basal applications: Manures: (0:20:20) at 315 kg. Weedkillers: Dichlorprop plus MCPA ('Mephetol Plus' at 8.4 l in 340 l).

Seed: Varieties sown at 190 kg.

Cultivations, etc.: - PK applied: 29 Sept, 1975. Ploughed: 20 Oct. Seed sown: 15 Mar, 1976. Weedkillers applied: 18 May. Combine harvested: 19 July. Previous crops: Barley 1974 and 1975.

NOTE: Brown rust and mildew were assessed in early July.

GRAIN TONNES/HECTARE

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

S N	50	100	MEAN
VARIETY			
JULIA	3.40	3.31	3.35
WING	3.44	3.59	3.51
MEAN	3.42	3.45	3.43
S N TIME	SEEDBED	TOPDRESS	MEAN
VARIETY			
JULIA	3.51	3.19	3.35
WING	3.42	3.61	3.51
MEAN	3.46	3.40	3.43
S N TIME	SEEDBED	TOPDRESS	MEAN
S N			
50	3.34	3.49	3.42
100	3.59	3.31	3.45
MEAN	3.46	3.40	3.43
L N	0	50	MEAN
VARIETY			
JULIA	3.19	3.51	3.35
WING	3.40	3.63	3.51
MEAN	3.29	3.57	3.43
L N	0	50	MEAN
S N			
50	3.28	3.55	3.42
100	3.30	3.59	3.45
MEAN	3.29	3.57	3.43
L N	0	50	MEAN
S N TIME			
SEEDBED	3.14	3.78	3.46
TOPDRESS	3.44	3.36	3.40
MEAN	3.29	3.57	3.43

76/S/B/1

GRAIN TONNES/HECTARE

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

MILD CON	NONE	ETH/TRID	MEAN
VARIETY			
JULIA	3.48	3.22	3.35
WING	3.55	3.48	3.51
MEAN	3.51	3.35	3.43
MILD CON	NONE	ETH/TRID	MEAN
S N			
50	3.43	3.40	3.42
100	3.60	3.30	3.45
MEAN	3.51	3.35	3.43
MILD CON	NONE	ETH/TRID	MEAN
S N TIME			
SEEDBED	3.55	3.38	3.46
TOPDRESS	3.48	3.33	3.40
MEAN	3.51	3.35	3.43
MILD CON	NONE	ETH/TRID	MEAN
L N			
0	3.44	3.14	3.29
50	3.59	3.56	3.57
MEAN	3.51	3.35	3.43
RUST CON	NONE	BENODANI	MEAN
VARIETY			
JULIA	3.33	3.37	3.35
WING	3.44	3.58	3.51
MEAN	3.39	3.48	3.43
RUST CON	NONE	BENODANI	MEAN
S N			
50	3.43	3.40	3.42
100	3.34	3.56	3.45
MEAN	3.39	3.48	3.43
RUST CON	NONE	BENODANI	MEAN
S N TIME			
SEEDBED	3.41	3.51	3.46
TOPDRESS	3.36	3.44	3.40
MEAN	3.39	3.48	3.43
RUST CON	NONE	BENODANI	MEAN
L N			
0	3.26	3.32	3.29
50	3.51	3.63	3.57
MEAN	3.39	3.48	3.43

76/S/B/1

GRAIN TONNES/HECTARE

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

RUST CON	NONE	BENODANI	MEAN
MILD CON			
NONE	3.37	3.65	3.51
ETH/TRID	3.40	3.30	3.35
MEAN	3.39	3.48	3.43

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

TABLE	VARIETY	S N	S N TIME	L N
SED	0.126	0.126	0.126	0.126

TABLE	MILD CON	RUST CON	VARIETY S N	VARIETY S N TIME
SED	0.126	0.113	0.179	0.179

TABLE	S N S N TIME	VARIETY L N	S N L N	S N TIME L N
SED	0.179	0.179	0.179	0.179

TABLE	VARIETY MILD CON	S N MILD CON	S N TIME MILD CON	L N MILD CON
SED	0.179	0.179	0.179	0.179

TABLE	VARIETY RUST CON	S N RUST CON	S N TIME RUST CON	L N RUST CON
SED	0.170	0.170	0.170	0.170

EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:
 VARIETY 0.160
 S N 0.160
 S N TIME 0.160
 L N 0.160

TABLE	MILD CON RUST CON
SED	0.170
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:	
MILD CON	0.160

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

STRATUM	DF	SE	CV%
WP	6	0.357	10.4
WP.SP	16	0.454	13.2

GRAIN MEAN DM% 84.0

SUB PLOT AREA HARVESTED 0.00089