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77/R/B/2 and 77/W/B/2 Varieties and N - Barley

Rothamsted Research

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77/R/B/2 and 77/W/B/2

SPRING BARLEY

VARIETIES AND N

Object: To study the yields of some of the newer varieties of barley. Three nitrogen rates are included and on one variety the effects of mildew control are also studied - Rothamsted (R) Gt. Harpenden II and Woburn (W) Gt. Hill Bottom I.

Sponsor: R. Moffitt.

Design: Gt. Harpenden II (R): 4 randomised blocks of 12 plots split into 3.
Gt. Hill Bottom I (W): 3 randomised blocks of 12 plots split into 3.

Whole plot dimensions: Gt. Harpenden II (R): 4.27 x 24.7.
Gt. Hill Bottom I (W): 4.27 x 20.1.

Treatments: All combinations of:-

Whole plots

1. VARIETY	Varieties and mildew control:
JULIA O	Julia, no fungicide
JULIA E	Julia, seed dressed ethirimol (two plots/block Gt. Hill Bottom I (W) only)
JULIA TD	Julia, crop sprayed tridemorph (two plots/block)
JULIA TF	Julia, seed dressed triforine (Gt. Harpenden II (R) only)
ARAMIR	Aramir)
ARKROYAL	Ark Royal)
GEORGIE	Georgie)
LOFAABED	Lofa Abed) Crop sprayed tridemorph
MAZURKA	Mazurka)
PORTHOS	Porthos)
SUNDANCE	Sundance)

Sub plots

2. N Nitrogen fertiliser (kg N):

38
75
113

NOTES: (1) Gt. Harpenden II (R): Tridemorph applied at 0.53 kg in 340 l: 22 June.
(2) Gt. Hill Bottom I (W): Tridemorph applied at 0.53 kg in 420 l: 23 June.

Basal applications:

Gt. Harpenden II (R): Manures: (0:20:20) at 310 kg, combine drilled. Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 l in 220 l).

Gt. Hill Bottom I (W): Manures: (0:20:20) at 310 kg, combine drilled. Weedkillers: Ioxynil at 0.53 kg and mecoprop at 1.6 kg in 220 l.

Seed: Gt. Harpenden II (R): Varieties sown at 160 kg.
Gt. Hill Bottom I (W): Varieties sown at 160 kg.

Cultivations, etc.:-

Gt. Harpenden II (R): Deep-tine cultivated: 22 Sept, 1976. Heavy spring-tine cultivated: 28 Sept. Ploughed: 18 Nov. Spring-tine cultivated: 10 Mar, 1977. Rotary harrowed, seed sown: 31 Mar. Test N applied: 19 May. Weedkillers applied: 26 May. Combine harvested: 5 Sept. Previous crops: Potatoes 1975, barley 1976.

77/R/B/2 and 77/W/B/2

Gt. Hill Bottom I (W): Ploughed: 23 Sept, 1976. Heavy spring-tine cultivated: 8 Mar, 1977. Power harrowed: 9 Mar. Spring-tine cultivated with crumbler attached, seed sown: 4 Apr. Weedkiller applied: 19 May. Combine harvested: 5 Sept. Previous crops: Potatoes 1975, winter wheat 1976.

77/R/B/2 GT HARPENDEN II (R)

GRAIN TONNES/HECTARE

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

N	38	75	113	MEAN
VARIETY				
JULIA O	4.12	4.51	4.46	4.36
JULIA E	4.46	4.85	4.52	4.61
JULIA TD	5.06	5.38	5.36	5.27
JULIA TF	4.45	4.70	4.43	4.53
ARAMIR	4.61	5.24	5.27	5.04
ARKROYAL	5.26	5.19	4.94	5.13
GEORGIE	5.22	5.44	5.44	5.36
LOFAABED	5.66	5.84	5.89	5.79
MAZURKA	4.70	5.01	5.08	4.93
PORTHOS	4.59	5.08	5.26	4.98
SUNDANCE	5.08	5.61	5.44	5.38
MEAN	4.86	5.19	5.12	5.05

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

TABLE	VARIETY	N	VARIETY	N
SED	0.156		0.202	MIN REP
	0.135	0.045	0.175	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY			0.157	MIN REP
			0.111	MAX REP

VARIETY
 MAX REP JULIA TD
 MAX-MIN JULIA TD V ANY OF REMAINDER
 MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	34	0.221	4.4
BLOCK.WP.SP	74	0.221	4.4

GRAIN MEAN DM% 79.0

SUB PLOT AREA HARVESTED 0.00163

77/W/B/2 GT HILL BOTTOM I (W)

GRAIN TONNES/HECTARE

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

	N	38	75	113	MEAN
VARIETY					
JULIA O	3.38	4.59	4.89	4.29	
JULIA E	3.32	4.34	4.50	4.05	
JULIA TD	3.86	4.69	4.84	4.46	
ARAMIR	3.43	4.48	4.84	4.25	
ARKROYAL	3.99	4.89	5.15	4.68	
GEORGIE	4.23	5.07	5.64	4.98	
LOFAABED	4.41	4.91	5.59	4.97	
MAZURKA	4.06	4.48	5.07	4.54	
PORTHOS	3.36	4.66	4.72	4.25	
SUNDANCE	4.52	5.58	5.84	5.31	
MEAN	3.81	4.73	5.03	4.52	

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

TABLE	VARIETY	N	VARIETY	N
SED	0.183		0.303	MIN REP
	0.158	0.086	0.263	MAX-MIN
	0.129		0.215	MAX REP
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY			0.297	MIN REP
			0.210	MAX REP

VARIETY
 MAX REP JULIA E AND JULIA TD
 MAX-MIN JULIA E AND JULIA TD V ANY OF REMAINDER
 MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	24	0.224	4.9
BLOCK.WP.SP	52	0.364	8.0

GRAIN MEAN DM% 82.6

SUB PLOT AREA HARVESTED 0.00173