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83/R/B/4 and 83/W/B/4 Varieties and N - S. Barley

Rothamsted Research

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83/R/B/4 and 83/W/B/4

SPRING BARLEY

VARIETIES AND N

Object: To study the yields of some of the newer varieties of s. barley at three rates of nitrogen - Rothamsted (R), Highfield IV and Woburn (W), Bull Field.

Sponsor: R. Moffitt.

Design: 2 randomised blocks of 3 plots split into 6.

Whole plot dimensions: 3.0 x 10.0.

Treatments: All combinations of:-

Whole plots

1. N Nitrogen fertilizer (kg N) as 'Nitro-Chalk', in addition to basals:

75
113
150

Sub plots

2. VARIETY Varieties:

ATEM
CARNIVAL
KYM
PATTY
TASMAN
TRIUMPH

NOTE: At Woburn 75 kg N of the nitrogen treatments was applied to the seedbed as (20:10:10), the remainder and all at Rothamsted was applied as 'Nitro-Chalk'.

Basal applications:

Highfield IV (R): Manures: (0:18:36) at 690 kg, N at 65 kg as 'Nitro-Chalk'. Weedkillers: Dicamba with mecoprop and MCPA (as 'Herrisol' at 5.0 l) in 250 l. Fungicide: Prochloraz at 0.4 l in 250 l.

Bull Field (W): Manures: Magnesian limestone at 7.5 t, (20:10:10) at 377 kg. Weedkillers: Dicamba, with mecoprop and MCPA (as 'Herrisol' at 5.0 l) in 250 l. Fungicide: Tridemorph at 0.52 kg in 250 l.

Seed: Highfield IV (R) and Bull Field (W): Sown at 160 kg.

83/R/B/4 and 83/W/B/4

Cultivations, etc.:-

Highfield IV (R): PK applied: 18 Oct, 1982. Ploughed: 17 Dec. Spring-tine cultivated: 15 Mar, 1983. N treatments applied, spring-tine cultivated, seed sown: 17 Mar. Weedkillers applied: 24 May. Basal N applied: 27 May. Fungicide applied: 1 July. Combine harvested: 8 Aug. Previous crops: S. beans 1981, w. wheat 1982.

Bull Field (W): Magnesian limestone applied: 15 Sept, 1982. Ploughed: 15 Nov. Heavy spring-tine cultivated: 7 Mar, 1983. NPK applied: 10 Mar. Spring-tine cultivated with crumbler attached, seed sown: 11 Mar. Weedkillers applied: 26 May. Remaining N treatments applied: 3 June. Fungicide applied: 16 June. Combine harvested: 6 Aug. Previous crops: S. barley 1981 and 1982.

83/R/B/4 HIGHFIELD IV (R)

GRAIN TONNES/HECTARE

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

N	75	113	150	MEAN
VARIETY				
ATEM	6.81	6.11	7.10	6.67
CARNIVAL	6.63	5.53	7.06	6.41
KYM	7.37	6.45	7.37	7.06
PATTY	6.71	6.07	7.12	6.63
TASMAN	5.48	5.52	6.64	5.88
TRIUMPH	5.97	5.92	6.79	6.23
MEAN	6.49	5.94	7.01	6.48

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

TABLE	VARIETY	N* VARIETY
SED	0.284	0.493

* FOR WITHIN SAME LEVEL OF N ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	15	0.493	7.6

GRAIN MEAN DM% 85.4

SUB PLOT AREA HARVESTED 0.00204

83/W/B/4 BULL FIELD (W)

GRAIN TONNES/HECTARE

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

N	75	113	150	MEAN
VARIETY				
ATEM	5.87	4.79	4.86	5.17
CARNIVAL	4.66	4.50	5.33	4.83
KYM	4.74	4.62	4.81	4.72
PATTY	4.63	4.38	3.61	4.21
TASMAN	3.62	4.09	3.33	3.68
TRIUMPH	4.49	4.28	4.26	4.34
MEAN	4.67	4.44	4.37	4.49

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

TABLE	VARIETY	N* VARIETY
SED	0.330	0.572

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	15	0.572	12.7

GRAIN MEAN DM% 86.1

SUB PLOT AREA HARVESTED 0.00275