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72/R/B/2 and 72/W/B/2 Barley Varieties and N

Rothamsted Research

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72/R/B/2 and 72/W/B/2

BARLEY

VARIETIES AND N

Object: To study the yield of newer varieties of barley grown at a range of nitrogen levels - Rothamsted (R) Pastures and Woburn (W) Lansome III.

Sponsor: J.R. Moffatt.

Design: 4 randomised blocks of 6 plots, split into 3.

Whole plot dimensions: 4.27 x 24.7. Sub plot area harvested: 0.00217.

Treatments: All combinations of:-

Whole plots: 1. Varieties: Berac (BE), Gerkra (GE), Hassan (HA), Julia (JU), Mazurka (MA), Vada (VA).

Sub plots: 2. Levels of nitrogen: 38, 75, 113 kg N as 'Nitro-Chalk'.

Basal applications:

Pastures (R): 310 kg (0:20:20) combine drilled. Weedkillers: Paraquat at 0.56 kg ion in 225 l on 2 occasions. Ioxynil, bromoxynil, 2,4-DP and MCPA ('Tetroxone' at 5.6 l in 220 l).
Lansome III (W): 250 kg (0:20:20) combine drilled. Weedkiller: Ioxynil, bromoxynil, 2,4-DP and MCPA ('Tetroxone' at 5.6 l in 280 l).

Seed: Gerkra dressed with organomercury and ethirimol, remainder with dual purpose and ethirimol. Sown at 160 kg (R), 150 kg (W).

Cultivations, etc.:-

Pastures (R): Paraquat applied: 2 and 6 Oct, 1971. Ploughed: 18 Nov. Seed combine drilled: 17 Mar, 1972. N applied: 7 - 13 Apr. 'Tetroxone' applied: 8 May. Combine harvested: 22 Aug. Previous crops: Spring beans 1970, barley 1971.
Lansome III (W): Ploughed: 27 Sept, 1971. Deep-tine cultivated: 10 Nov. Seed combine drilled: 16 Mar, 1972. N applied: 17 Mar. 'Tetroxone' applied: 8 May. Combine harvested: 14 Aug. Previous crops: Spring beans 1970, barley 1971.

72/R/B/2 and 72/W/B/2

Standard errors per plot. Grain, tonnes/hectare:

Pastures (R): Whole plot: 0.248 or 3.9% (15 d.f.)
 Sub plot: 1.050 or 16.5% (36 d.f.)
 Lansome III (W): Whole plot: 0.285 or 5.7% (15 d.f.)
 Sub plot: 0.679 or 13.6% (36 d.f.)

TABLES OF MEANS

GRAIN: TONNES/HECTARE

PASTURES (R)

N: KG/HA

	38	75	113	Mean
VARIETY				
BE	6.80	7.04	6.29	6.71
GE	5.72	6.04	5.26	5.67
HA	7.80	6.63	6.23	6.89
JU	6.57	7.51	6.69	6.92
MA	6.63	5.70	5.12	5.82
VA	7.31	5.59	5.36	6.09
Mean	6.81	6.42	5.83	6.35

STANDARD ERRORS OF DIFFERENCES

VARIETY N VARIETY N

0.176 0.303 0.631

Unless same levels of
 VARIETY

0.743

Mean D.M. %: 85.2

72/R/B/2 and 72/W/B/2

GRAIN: TONNES/HECTARE

LANSOME III (W)

N: KG/HA

	38	75	113	Mean
VARIETY				
BE	4.15	5.40	5.65	5.07
GE	4.10	5.26	5.45	4.94
HA	3.45	5.62	5.50	4.86
JU	3.80	5.29	6.08	5.06
MA	3.43	5.24	5.85	4.84
VA	4.12	5.25	5.89	5.09
Mean	3.84	5.34	5.74	4.97

STANDARD ERRORS OF DIFFERENCES

VARIETY	N	VARIETY	N
	0.202		0.196
Unless same levels of			0.441
VARIETY			0.480

Mean D.M. %: 85.8