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# Yields of the Field Experiments 1972

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## 72/R/B/3 Barley Weedkiller and Aqueous N

### Rothamsted Research

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72/R/B/3

BARLEY

WEEDKILLER AND AQUEOUS N

Object: To study the effects of a range of rates of solid or liquid nitrogen in combination with a range of rates of hormone weedkiller on foliar scorch and yield of barley - Pastures.

Sponsors: S.C.R. Freeman, A. Penny.

Design: 3 randomised blocks of 28 plots.

Whole plot dimensions: 2.13 x 2.74. Area harvested: 0.00038.

Treatments: All combinations of:-

1. Weedkiller (dichlorprop/MCPA) (E): 0 (0), 1.4 (1), 2.8 (2), 4.2 (3) kg total a.e.
2. Forms of nitrogen: Solid as 'Nitro-Chalk' (21% N) applied immediately after the weedkiller (S), liquid as urea/ammonium nitrate (26% N) mixed with the weedkiller (L).
3. Nitrogen: 37.7, 75.3, 113 kg N, together with 4 extra treatments: SN2 E H0, SN2 E H1, SN2 E H2, SN2 E H3 (N2 = 75.3) where 'Nitro-Chalk' was applied early (E) and the H0 plots were hand weeded.

Basal applications: 190 kg (10:24:24) combine drilled. Weedkiller: Paraquat at 0.56 kg ion in 225 l.

Seed: Julia dressed ethirimol, sown at 160 kg.

Cultivations, etc.: Paraquat applied: 2 Oct, 1971. Ploughed: 23 Nov. Seed combine drilled: 20 Mar, 1972. N applied to E plots: 3 May. Remaining N treatments and weedkiller applied: 18 May. H0 plots hand weeded: 30 June. Cut by sickle: 17 Aug. Previous crops: Beans 1970, barley 1971,

NOTE: Grain and straw samples were taken for determination of dry matter and % N.

Standard error per plot.

Grain, tonnes/hectare: 0.334 or 5.1% (54 d.f.)

72/R/B/3

TABLES OF MEANS

GRAIN: TONNES/HECTARE

	FORM		N: KG/HA			Mean
	S	L	37.7	75.3	113	
H: KG/HA						
0	6.49	6.45	6.40	6.59	6.41	6.47
1.4	6.66	6.79	6.48	6.64	7.05	6.72
2.8	6.58	6.52	6.48	6.48	6.71	6.55
4.2	6.53	6.44	6.18	6.48	6.80	6.49
		FORM				
		S	6.46	6.72	6.52	6.57
		L	6.31	6.37	6.97	6.55
Mean			6.39	6.55	6.74	6.56

Extra (SN2 E)

H: KG/HA

	0	1.4	2.8	4.2	Mean
	6.38	6.44	6.58	6.39	6.45

STANDARD ERRORS OF DIFFERENCES

H	FORM	N	H FORM	H N	FORM N
0.111	0.079	0.096	0.188	0.219	0.136

EXTRA

H

0.273

Grand Mean: 6.54  
Mean D.M. %: 77.2

72/R/B/3

STRAW: TONNES/HECTARE

	FORM		N: KG/HA			Mean
	S	L	37.7	75.3	113	
H: KG/HA						
0	6.73	6.31	5.90	6.58	7.08	6.52
1.4	6.50	6.38	6.09	6.26	6.96	6.44
2.8	6.47	6.43	5.84	6.25	7.25	6.45
4.2	6.36	6.20	5.60	6.30	6.94	6.28
		FORM				
		S	5.92	6.64	6.98	6.51
		L	5.79	6.06	7.13	6.33
Mean			5.86	6.35	7.06	6.42

Extra (SN2 E9)

	H: KG/HA				Mean
	0	1.4	2.8	4.2	
	6.37	6.38	6.48	6.52	6.44

Grand Mean: 6.42  
 Mean D.M. %: 52.1