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Yields of the Field Experiments 1974

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74/R/CS/1 Levels of N and K - Barley

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74/R/CS/1

LEVELS OF N AND K

Object: To study the residual effects of N, P and K fertilisers applied to grass 1958-1967 and further dressings of P and K to arable crops 1969-71 - Harwoods Piece.

Sponsor: F.V. Widdowson.

The seventeenth year, barley.

For previous years see 58/Cg/2(t), 59/Cg/2(t), 60/Ci/1, 61/Dg/1, 62/C/11, 63/C/7, 64/C/6(t), 65/C/6(t), 66/C/5, 67/C/4, 68/C/4(t), 69/R/CS/1(t), 70/R/CS/1(t), 71/R/CS/1(t) and 72-73/R/CS/1.

Design: 4 randomised blocks of 12 plots split into 2.

Whole plot dimensions: 2.13 x 16.5. Sub plot area harvested: 0.00118.

Treatments: All combinations of:-

Whole plots: 1. NPK residues:

NPK RES

To grass 1958-67			To potatoes 1971		
N	P	K	P	K	
0	1	0	1	0	NO P1 K0
1	1	0	1	0	N1 P1 K0
1	1	1	1	1	N1 P1 K1
1	1	2	1	2	N1 P1 K2
2	1	0	1	0	N2 P1 K0
2	1	1	1	1	N2 P1 K1
2	1	2	1	2	N2 P1 K2
3	1	0	1	0	N3 P1 K0
3	1	1	1	1	N3 P1 K1
3	1	2	1	2	N3 P1 K2
3	0	2	0	2	N3 P0 K2
3	2	2	2	2	N3 P2 K2

To grass: N1, 2, 3 = 38, 75, 113 kg N per cut. P1, 2 = 75, 150 kg P205 per annum. K1, 2 = 38, 75 kg K20 per cut.

To potatoes: P1, 2 = 125, 250 kg P205. K1, 2 = 125, 250 kg K20. All arable crops received basal N.

Sub plots: 2. Residues of muriate of potash applied in three equal dressings 1969-1971 (kg K20 total):

K20 RES

None	0
376	376

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Basal applications: Manures: 'Nitro-Chalk' at 310 kg. Weedkiller:
Paraquat at 0.56 kg ion in 220 l.

Seed: Julia, dressed with ethirimol, sown at 190 kg.

Cultivations, etc.: - Ploughed: 10 Sept, 1973. Paraquat applied:
28 Mar, 1974. Power harrowed: 2 Apr. Seed sown and N applied:
3 Apr. Combine harvested: 27 Aug.

Standard errors per plot. Grain, tonnes/hectare:

Whole plot: 0.247 or 4.3% (33 d.f.)

Sub plot: 0.334 or 5.9% (36 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

K20 RES

	0	376	Mean
NPK RES			
NO P1 K0	5.60	5.70	5.65
N1 P1 K0	5.80	5.42	5.61
N1 P1 K1	5.52	5.97	5.74
N1 P1 K2	5.36	5.72	5.54
N2 P1 K0	5.59	5.76	5.68
N2 P1 K1	5.82	5.94	5.88
N2 P1 K2	5.77	5.67	5.72
N3 P1 K0	5.98	5.99	5.98
N3 P1 K1	5.67	5.47	5.57
N3 P1 K2	5.75	5.25	5.50
N3 P0 K2	6.25	5.70	5.98
N3 P2 K2	5.39	5.53	5.46
Mean	5.71	5.68	5.69

STANDARD ERRORS OF DIFFERENCES

NPK RES	K20 RES	NPK RES K20 RES
0.175	0.068	0.242

Except when comparing
means with same level of
NPK RES 0.236

Mean D.M. % 81.2