

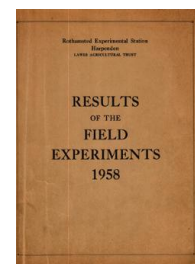
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58/R/CB/1 Barley - N P and Residual Dung N P K

Rothamsted Research

Rothamsted Research (1959) *58/R/CB/1 Barley - N P and Residual Dung N P K* ; Yields Of The Field Experiments 1958, pp 88 - 89 - DOI: <https://doi.org/10.23637/ERADOC-1-181>

58/Cb/1.1

BARLEY

Residual effects of dung, N, P and K applied to potatoes 1957 and direct effects of N and P - West Barnfield II 1958.

Design: Half replicate of 4×2^5 arranged in 4 blocks of 16 plots each, the identity being $d(20 - 10 + 5 - 0)npkNP = 1$, with certain high order interactions confounded with block differences.

Area of each plot: 0.0212 acres. Area harvested: 0.0141 acres.

Treatments. All combinations of:-

Applied to potatoes 1957.

Dung: None; 5; 10; 20 tons per acre ploughed in.

N: None; 0.9 cwt N per acre as sulphate of ammonia.

P: None; 0.75 cwt P_2O_5 per acre as superphosphate.

K: None; 1.5 cwt K_2O per acre as muriate of potash.

Applied to barley 1958.

N: None; 0.4 cwt N per acre as 'Nitro-Chalk'.

P: None; 0.4 cwt P_2O_5 as superphosphate.

Basal dressing: 0.8 cwt K_2O per acre as muriate of potash.

Cultivations, etc.: Ploughed: Nov 7, 1957. 'Nitro-Chalk' and basal fertilizers applied, seed drilled at 2 bushels per acre: Mar 25, 1958. Sprayed with MCPB at 5 pints in 40 gallons per acre: May 28. Combine harvested: Sept 2. Variety: Proctor. Previous crop: Potatoes.

Standard error per plot.

Grain (at 85% dry matter): 1.51 cwt per acre or 4.4% (27 d.f.)

Summary of Results

Grain (at 85% dry matter): cwt per acre

		Dung to potatoes 1957: tons per acre				Mean
		None	5	10	20	
Mean	(±0.38)	33.6	33.9	34.1	35.0	34.2
<u>Applied to potatoes 1957</u>						
N: cwt per acre						
None	(±0.53)	34.1	34.3	34.1	34.8	34.3
0.9		33.2	33.6	34.1	35.2	34.0
Difference	(±0.76)	-0.9	-0.7	0.0	+0.4	-0.3 (±0.38)
P ₂ O ₅ : cwt per acre						
None	(±0.53)	32.1	32.7	33.7	34.1	33.1
0.75		35.2	35.2	34.5	35.9	35.2
Difference	(±0.76)	+3.1	+2.5	+0.8	+1.8	+2.1 (±0.38)
K ₂ O: cwt per acre						
None	(±0.53)	33.6	34.3	33.4	35.7	34.2
1.5		33.7	33.6	34.8	34.3	34.1
Difference	(±0.76)	+0.1	-0.7	+1.4	-1.4	-0.1 (±0.38)
<u>Applied to barley 1958</u>						
N: cwt per acre						
None	(±0.53)	33.2	32.9	33.6	34.6	33.6
0.4		34.1	35.0	34.6	35.4	34.8
Difference	(±0.76)	+0.9	+2.1	+1.0	+0.8	+1.2 (±0.38)
P ₂ O ₅ : cwt per acre						
None	(±0.53)	31.0	32.7	33.1	34.0	32.7
0.4		36.2	35.2	35.0	35.9	35.6
Difference	(±0.76)	+5.2	+2.5	+1.9	+1.9	+2.9 (±0.38)

Responses to treatments
cwt per acre

Response to	Applied to potatoes 1957						Applied to barley 1958			
	N	0.9	P ₂ O ₅	0.75	K ₂ O	1.5	N	0.4	P ₂ O ₅	0.4
<u>Applied to potatoes 1957</u>	(±0.53)									
N	-	-	+0.3	-0.9	-1.0	+0.4	+0.8	-1.4	-0.6	0.0
P ₂ O ₅	+2.6	+1.4	-	-	+1.5	+2.5	+2.4	+1.6	+2.9	+1.1
K ₂ O	-0.9	+0.5	-0.7	+0.3	-	-	-0.2	-0.2	0.0	-0.4
<u>Applied to barley 1958</u>										
N	+2.3	+0.1	+1.6	+0.8	+1.2	+1.2	-	-	+1.0	+1.4
P ₂ O ₅	+2.6	+3.2	+3.8	+2.0	+3.1	+2.7	+2.7	+3.1	-	-
Mean dry matter % as harvested: 80.9										