

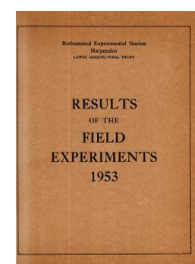
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RESEARCH

Yields of the Field Experiments 1953

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53/CE/2 Potatoes - Method of Planting - Rothamsted

Rothamsted Research

Rothamsted Research (1954) *53/CE/2 Potatoes - Method of Planting - Rothamsted* ; Yields Of The Field Experiments 1953, pp 93 - 95 - DOI: <https://doi.org/10.23637/ERADOC-1-173>

53/Ce/2.1

POTATOES

Methods of planting and fertilizer application - Deacons Field 1953.

System of replication: 4 randomized blocks of 12 plots each, plots being split into 2 for the application of N and K with the NK interaction confounded with whole plot differences, and certain high order interactions confounded with block differences.

Area of each sub-plot: 0.0140 acre. Area harvested: 0.0105 acre.

Treatments:

Whole plots: All combinations of:-

Compound granular fertilizer (7% N, 7% P_2O_5 , 10.5% K_2O):
None; $7\frac{1}{2}$; 15 cwt per acre.

Methods of planting and fertilizer application: Ridge, broadcast fertilizer, hand plant and split back at once (A); Ridge, expose ridges for 7 days, broadcast fertilizer over ridges, hand plant same time as A and split back ridges (B); Broadcast fertilizer on flat, plant from flat with dropper (C); plant from flat with dropper, fertilizers placed 2" to side of seed (D).

Sub plots: All combinations of:-

N: None; 0.53 cwt per acre applied as Sulphate of ammonia.

K_2O : None; 0.79 cwt per acre applied as Muriate of potash.

Both N and K_2O were applied as top dressings before the final earthing up.

Basal dressing: None.

Cultivations, etc.: Ploughed: Sept 15, 1952. Ridged 'B' plots: Apr 9, 1953. Ridged 'A' plots, fertilizers applied and potatoes planted on 'A' and 'B' plots: Apr 16. Fertilizers applied, potatoes planted on 'C' and 'D' plots: Apr 17. Top dressings applied, earthed up: June 30. Sprayed with copper fungicide, 5 lb per acre: Aug 1. Sprayed with sulphuric acid, 15% B.O.V: Sept 23. Lifted: Oct 5. Variety: Majestic. Previous crop: Barley.

Standard errors per plot, Total tubers:

Whole plot: 1.02 tons per acre or 8.6% (33 d.f.)

Sub plot: 0.550 tons per acre or 4.6% (26 d.f.)

Summary of Results

Compound fertilizer: cwt per acre																
None				7.5				15.0				Mean				
A	B	C & D		A	B	C	D	A	B	C	D					
Total tubers: tons per acre																
N: cwt per acre				$(\pm 0.548)^{\#}$												
None				9.43	7.89	8.71		12.29	12.52	11.69	11.85	14.75	14.73	14.99	15.31	11.91
0.53				8.66	8.57	9.04		12.89	13.02	11.25	11.32	15.39	14.08	14.08	14.06	11.78
Difference (± 0.389)				-0.77	+0.68	+0.33 ⁽¹⁾		+0.60	+0.50	-0.44	-0.53	+0.64	-0.65	-0.91	-1.25	-0.13 (± 0.112)
K ₂ O: cwt per acre				$(\pm 0.548)^{\#}$												
None				8.77	8.21	8.88		12.31	13.16	11.60	11.52	15.37	14.09	14.62	14.64	11.84
0.79				9.32	8.25	8.88		12.87	12.38	11.34	11.65	14.77	14.72	14.46	14.73	11.85
Difference (± 0.369)				+0.55	+0.04	0.00 ⁽¹⁾		+0.56	-0.78	-0.26	+0.13	-0.60	+0.63	-0.16	+0.09	+0.01 (± 0.112)
Mean				9.05	8.23	8.88 ⁽²⁾		12.59	12.77	11.47	11.59	15.07	14.41	14.54	14.68	11.84

(1) ± 0.275 (2) ± 0.362 [#] for use in comparisons other than vertical.

Treatments A. Ridge, broadcast fertilizer, hand plant and split back ridges at once.

B Ridge, expose ridges for 7 days, broadcast fertilizer over ridges, hand plant, same time as A, split back ridges.

C Broadcast fertilizer on flat, plant from flat with dropper

D Plant from flat with dropper, fertilizer placement 2" to side of seed.

N: cwt
per acre
None 0.53K₂O: cwt
per acre
None 0.79 (± 0.296) 11.84 11.83
11.97 11.74

53/Ce/2.2

53/Ce/2.3

Compound fertilizer: cwt per acre																								
	None			7.5			15.0			Mean														
	A	B	C & D	A	B	C	D	A	B		C	D												
Percentage ware																								
N: cwt per acre																								
None	87.4	88.4	87.0	87.9	90.5	88.5	85.7	91.4	87.0	91.7	89.9	88.5												
0.53	90.9	87.8	87.3	88.4	88.2	90.5	83.6	89.4	86.8	86.4	88.8	87.9												
Difference	+3.5	-0.6	+0.3	+0.5	-2.3	+2.0	-2.1	-2.0	-0.2	-5.3	-1.1	-0.6												
K ₂ O: cwt per acre																								
None	88.4	87.2	86.7	88.1	89.3	89.1	82.6	91.0	88.2	89.4	87.9	87.9												
0.79	89.8	89.0	87.6	88.2	89.4	89.9	86.8	89.8	85.6	88.7	90.8	88.6												
Difference	+1.4	+1.8	+0.9	+0.1	+0.1	+0.8	+4.2	-1.2	-2.6	-0.7	+2.9	+0.7												
Mean	89.2	88.1	87.1	88.1	89.3	89.5	84.7	90.4	86.9	89.1	89.3	88.2												
Treatments	Ridge, broadcast fertilizer, hand plant and split back ridges at once.																							
A	Ridge, expose ridges for 7 days, broadcast fertilizer over ridges, hand plant, same time as A, and split back ridges.																							
B	Broadcast fertilizers on flat, plant from flat with dropper.																							
C	Plant from flat with dropper, fertilizer placement 2" to side of seed.																							
D																								
	<table><tr><td colspan="2">K₂O: cwt per acre</td><td colspan="2">N: cwt per acre</td></tr><tr><td>None</td><td>0.79</td><td>88.1</td><td>87.7</td></tr><tr><td></td><td></td><td>89.0</td><td>88.2</td></tr></table>												K ₂ O: cwt per acre		N: cwt per acre		None	0.79	88.1	87.7			89.0	88.2
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