

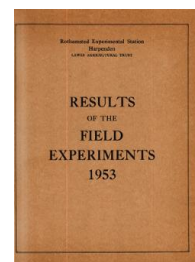
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Yields of the Field Experiments 1953

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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% P₂O₅, 10.5% K₂O):
None; 7½; 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.

K₂O: None; 0.79 cwt per acre applied as Muriate of potash.

Both N and K₂O 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.)

53/Ce/2.2

Summary of Results

	Compound fertilizer: cwt per acre				Total tubers: tons per acre				Mean
	A	B	C	D	A	B	C	D	
N: cwt per acre	None				7.5				15.0
None									
0.53									
Difference (± 0.389)									
K ₂ O: cwt per acre	None				7.5				15.0
None									
0.79									
Difference (± 0.369)									
Mean									

N: cwt per acre
None 0.53

K₂O: cwt per acre
None 0.79

(± 0.548)[#] (± 0.387)[#] (± 0.548)[#]

9.43 7.89 8.71 12.29 12.52 11.69 11.85 14.75 14.73 14.99 15.31 11.91

8.66 8.57 9.04 12.89 13.02 11.25 11.32 15.39 14.08 14.08 14.06 11.78

-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)

(± 0.548)[#] (± 0.387)[#] (± 0.548)[#]

8.77 8.21 8.88 12.31 13.16 11.60 11.52 15.37 14.09 14.62 14.64 11.84

9.32 8.25 8.88 12.87 12.38 11.34 11.65 14.77 14.72 14.46 14.73 11.85

+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)

(± 0.512) 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.

	Compound fertilizer: cwt per acre										Mean					
	None		7.5		15.0		A		B			C		D		
	A	B	C & D	A	B	C	D	A	B	C	D	A	B	C	D	Mean
N: cwt per acre	87.4	88.4	87.0	87.9	90.5	88.5	85.7	91.4	87.0	91.7	89.9	88.5	87.0	91.7	89.9	88.5
None	90.9	87.8	87.3	88.4	88.2	90.5	83.6	89.4	86.8	86.4	88.8	87.9	86.4	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	-0.2	-5.3	-1.1	-0.6
K ₂ O: cwt per acre	88.4	87.2	86.7	88.1	89.3	89.1	82.6	91.0	88.2	89.4	87.9	87.9	88.2	89.4	87.9	87.9
None	89.8	89.0	87.6	88.2	89.4	89.9	86.8	89.8	85.6	88.7	90.8	88.6	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	-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	86.9	89.1	89.3	88.2

Percentage ware

Treatments	N: cwt per acre		K ₂ O: cwt per acre	
	A	B	None	0.53
Ridge, broadcast fertilizer, hand plant and split back ridges at once.	88.1	89.3	88.1	89.3
Ridge, expose ridges for 7 days, broadcast fertilizer over ridges, hand plant, same time as A, and split back ridges.	88.1	89.3	88.1	89.3
Broadcast fertilizers on flat, plant from flat with dropper.	88.1	89.3	88.1	89.3
Plant from flat with dropper, fertilizer placement 2" to side of seed.	88.1	89.3	88.1	89.3