

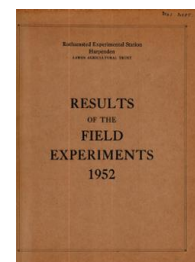
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1952

[Full Table of Content](#)



52/CE/1 Potatoes - Application of Dung - Rothamsted

Rothamsted Research

Rothamsted Research (1953) *52/CE/1 Potatoes - Application of Dung - Rothamsted* ; Yields Of The Field Experiments 1952, pp 85 - 89 - DOI: <https://doi.org/10.23637/ERADOC-1-178>

52/Ce/1.1

POTATOES

Application of dung - West Barnfield II 1952.

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

Area of each sub plot: 0.0175 acre. Area harvested: 0.0140 acre.

Treatments: All combinations of:-

Whole plots Dung: None; 5; 10; 15 tons per acre.
Method of application: Ploughed in, in winter (W);
Ploughed in, in spring (S); Placed in the ridges
in spring (R).

Sub plots N: None; 0.6 cwt per acre applied as sulphate of
ammonia.
 P_2O_5 : None; 0.6 cwt per acre applied as super-
phosphate.
 K_2O : None; 1.0 cwt per acre applied as muriate of
potash.

Basal dressing: None.

Cultivations, etc.: Dung applied to 'W' plots, ploughed all plots:
Sept 26. Dung applied to 'S' plots, ploughed all plots: Mar 12.
Ridged all plots: May 5. Dung applied to 'R' plots, fertilizers
applied in the ridges, potatoes planted: May 6. Earthed up:
July 17. Sprayed with copper fungicide 5 lb per acre: Aug 12
and again Sept 5. Sprayed with sulphuric acid, 20% B.O.V.:
Sept 24. Lifted: Oct 9. Variety: Majestic. Previous crop:
Wheat.

Standard errors per plot: Total tubers.

Whole plot: 0.755 tons per acre or 7.4% (32 d.f.)
Sub plot: 1.060 tons per acre or 10.4% (29 d.f.)*

* 1 missing value.

52/Ce/1.2

Summary of Results

Total tubers: tons per acre

	Dung: tons per acre				Mean
	None	5	10	15	
Mean (± 0.218)	7.76	9.64	11.09	12.45	10.24
<u>Method of application</u>	(± 0.378)				(± 0.218)
Ploughed in, in winter		9.12	10.63	11.28	10.34
Ploughed in, in spring		9.17	11.16	12.90	11.08
Placed in ridges in spring		10.64	11.50	13.15	11.76
<u>N: cwt per acre</u>	$(\pm 0.307)^*$				
None	7.02	8.72	10.58	11.75	9.52
0.6	8.51	10.57	11.60	13.15	10.96
Response to N (± 0.433)	1.49	1.85	1.02	1.40	1.44 ⁽¹⁾
<u>P₂₅0: cwt per acre</u>	$(\pm 0.307)^*$				
None	7.65	9.05	10.50	12.18	9.85
0.6	7.88	10.24	11.68	12.71	10.63
Response to P (± 0.433)	0.23	1.19	1.18	0.53	0.78 ⁽¹⁾
<u>K₂0: cwt per acre</u>	$(\pm 0.307)^*$				
None	5.69	8.49	10.47	11.92	9.14
1.0	9.84	10.80	11.72	12.97	11.33
Response to K (± 0.433)	4.15	2.31	1.25	1.05	2.19 ⁽¹⁾

(1) ± 0.216

*Standard error for use in comparisons other than vertical.

52/Ce/1.3

Total tubers: tons per acre

	Method of application of dung		
	Ploughed in, in winter	Ploughed in, in spring	Placed in ridges in spring
<u>N: cwt per acre</u>	(± 0.307) [*]		
None	9.70	10.32	11.03
0.6	10.99	11.83	12.50
Response to N (± 0.433)	1.29	1.51	1.47
<u>P₂O₅: cwt per acre</u>	(± 0.307) [*]		
None	9.86	10.55	11.32
0.6	10.83	11.60	12.21
Response to P (± 0.433)	0.97	1.05	0.89
<u>K₂O: cwt per acre</u>	(± 0.307) [*]		
None	9.23	10.13	11.51
1.0	11.46	12.02	12.01
Response to K (± 0.433)	2.23	1.89	0.50

*Standard error for use in comparisons other than vertical.

Response to:	Responses to treatments (± 0.307) ^{**}					
	N		P		K	
	Abs.	Pres.	Abs.	Pres.	Abs.	Pres.
N	-	-	1.24	1.64	1.12	1.76
P	0.58	0.98	-	-	0.17	1.39
K	1.87	2.51	1.58	2.80	-	-

**Standard error of horizontal difference between two responses 0.436.

52/Ce/1.4

Percentage Ware (1½" riddle)

	Dung: tons per acre				Mean
	None	5	10	15	
Mean	75.8	82.5	84.8	86.0	82.3
<u>Method of application</u>					
Ploughed in, in winter		82.0	84.7	85.5	84.0
Ploughed in, in spring		82.2	87.2	88.5	85.9
Placed in ridges in spring		83.3	82.6	84.1	83.3
<u>N: cwt per acre</u>					
None	75.1	82.6	85.4	86.5	82.4
0.6	76.6	82.4	84.2	85.5	82.2
Response to N	+1.5	-0.2	-1.2	-1.0	-0.2
<u>P₂₅: cwt per acre</u>					
None	81.8	84.9	86.1	87.5	85.1
0.6	69.9	80.0	83.5	84.5	79.5
Response to P	-11.9	-4.9	-2.6	-3.0	-5.6
<u>K₂₀: cwt per acre</u>					
None	65.7	77.7	82.0	85.0	77.6
1.0	86.0	87.3	87.6	87.0	87.0
Response to K	+20.3	+9.6	+5.6	+2.0	+9.4

52/Ce/1.5

Percentage Ware ($1\frac{1}{2}$ " riddle)

	Method of application of dung		
	Ploughed in, in winter	Ploughed in, in spring	Placed in ridges in spring
<u>N: cwt per acre</u>			
None	83.8	86.0	84.7
0.6	84.3	85.9	81.9
Response to N	+0.5	-0.1	-2.8
<u>P₂₋₅: cwt per acre</u>			
None	87.2	86.5	84.9
0.6	80.9	85.4	81.8
Response to P	-6.3	-1.1	-3.1
<u>K₂: cwt per acre</u>			
None	79.6	83.6	81.6
1.0	88.5	88.3	85.1
Response to K	+8.9	+4.7	+3.5

Responses to treatments

Response to:	N		P		K	
	Abs.	Pres.	Abs.	Pres.	Abs.	Pres.
N	-	-	-0.1	-0.5	+0.7	-1.3
P	-5.4	-5.8	-	-	-7.9	-3.3
K	+10.4	+8.4	+7.1	+11.7	-	-