

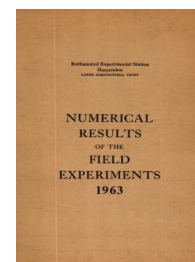
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1963

[Full Table of Content](#)



63/W/WMG/B/5 Market Garden Soil

Rothamsted Research

Rothamsted Research (1964) *63/W/WMG/B/5 Market Garden Soil* ; Yields Of The Field Experiments 1963, pp 87 - 97 - DOI: <https://doi.org/10.23637/ERADOC-1-183>

63/E/5.1

WOEBURN MARKET GARDEN EXPERIMENT

(WMG)

Organic manures, N, P and K - Lansome Field 1963, the 22nd year of the experiment, the third year with revised treatments.

Carrots (in place of early potatoes): Crop changed because of an infestation of potato root eelworm (Heterodora rostochiensis). The carrots are unthinned and are sprayed with a systemic insecticide to control Motley Dwarf Virus. Manurial treatments remain the same.

Globe beet: Seed dressing test (to columns of 4 half-plots):
No dressing, seed dressed against fungus disease with BHC/organomercury at 10 oz of the commercial preparation per 112 lb of seed.

Magnesium sulphate test: This is now discontinued.

Area of each sub plot (acres): 0.0063. Area harvested (acres):
Leeks - 0.0011, carrots - 1st harvest 0.0012, 2nd harvest 0.0017,
globe beet - 0.0009.

Note: The results for the 1963-64 leeks will be included in the 1964 report.

Cultivations, etc.:

Leeks 1962-63. Dung and NPK applied, plots ploughed: July 25, 1962.

Magnesium sulphate and second half of NPK applied: July 27.

Leeks planted: July 30. Harvested: 1st lifting - Mar 12, 2nd lifting - Apr 1, 1963. Variety: Musselburgh.

Carrots. PK applied: Mar 7, 1963. Dung applied, plots ploughed: Mar 13. N and second half of PK applied: Apr 11. Seed drilled at 2 lb per acre: Apr 21. Sprayed with demeton methyl at 6 fluid oz in 40 gallons per acre: May 31 and June 27. Lifted - 1st harvest: 15 July, 2nd harvest: 30 - 31 July. Variety: Early Market.

Globe beet. Ground chalk applied at 20 cwt per acre: May 3, 1963. Dung and NPK applied, plots ploughed: May 7. Second half of NPK applied: May 8. Seed drilled (untreated at 13 lb and treated at 14 lb per acre): May 9. Sprayed with demeton methyl at 6 fluid oz in 40 gallons per acre: June 6. Singled: June 14. Lifted: July 22*. Variety: Detroit.

* Through an error only one harvest was taken.

63/B/5.2

Summary of Results

Leeks 1962 - 1963. 1st Lifting. Saleable produce: tons per acre

Dung: tons per acre	Organic** manure applied 1962-62	Mean	Mag.sulph. lb p.a. 500		Diff.	Fertiliser		Diff.
			None	500		None	NPK	
10	D1	4.31	4.32	4.30	-0.02	3.87	4.75	+0.88
20	D2	4.25	4.07	4.42	+0.35	3.70	4.80	+1.10
10	C1	3.86	4.04	3.67	-0.37	3.52	4.20	+0.68
20	C2	4.26	4.24	4.27	+0.03	3.64	4.87	+1.23
Mean		4.17	4.17	4.16	-0.01	3.68	4.65	+0.97
Mag.sulph. lb per acre								
NPK					None	3.64	4.70	
					500	3.72	4.61	
111		3.72	3.42	4.02	+0.60			
111*		3.67	3.82	3.52	-0.30			
211		3.06	3.22	2.91	-0.31			
211*		4.37	4.32	4.42	+0.10			
112		3.37	3.12	3.62	+0.50			
112*		2.92	3.12	2.71	-0.41			
212		3.72	4.02	3.42	-0.60			
212*		4.12	4.12	4.12	0.00			
Mean		3.62	3.64	3.59	-0.05			

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

63/E/5.3

Leeks 1962 - 1963. 2nd Lifting. Saleable produce: tons per acre

Dung: tons per acre	Organic** manure applied 1942-62	Mag.sulph. lb p.a. 500		Fertiliser N.P.K.I		Diff
		None	500	None	N.P.K.I	
10	D1	4.62	4.67	4.52	4.77	+0.25
20	D2	4.35	4.52	4.04	4.82	+0.78
10	C1	4.45	4.20	3.77	4.88	+1.11
20	C2	4.60	4.14	3.59	5.15	+1.56
Mean		4.50	4.38	3.98	4.90	+0.92

Mag.sulph. lb per acre
None 4.01 5.00
500 3.96 4.81

NPK	Mag.sulph. lb per acre		Diff.
	None	500	
111	3.82	3.72	-0.10
111*	3.82	4.02	+0.20
211	3.62	3.22	-0.40
211*	5.13	4.42	-0.71
112	3.72	3.01	-0.71
112*	3.72	3.62	-0.10
212	4.42	4.42	0.00
212*	4.22	4.12	-0.10
Mean	4.06	3.82	-0.24

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

63/B/5.4

Leeks 1962 - 1963. Mean of 2 Liftings. Saleable produce: tons per acre

Dung: tons per acre	Organic** manure applied 1942-62	Mag.sulph. lb p.a. 500		Fertiliser N/P/K		Diff.
		None	Mean	None	Diff.	
10	D1	4.47	4.48	4.20	4.76	+0.56
20	D2	4.21	4.34	3.87	4.81	+0.94
10	C1	4.24	4.09	3.64	4.54	+0.90
20	C2	4.42	4.31	3.62	5.01	+1.39
Mean		4.34	4.30	3.83	4.78	+0.95

Mag.sulph. lb per acre

None 3.83
500 4.71

NPK

111	3.74	3.62	3.87	+0.25
111*	3.80	3.82	3.77	-0.05
211	3.24	3.42	3.06	-0.36
211*	4.57	4.72	4.42	-0.30
112	3.37	3.42	3.32	-0.10
112*	3.29	3.42	3.16	-0.26
212	4.07	4.22	3.92	-0.30
212*	4.14	4.17	4.12	-0.05
Mean	3.78	3.85	3.71	-0.14

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

63/B/5.5

Carrots. Graded produce. Roots: tons per acre

Dung: tons per acre	Organic manure applied 1942-61	Mean	Fertiliser		Diff.	Treatment NPK
			None	N.P.K.		
			<u>1st Harvest</u>			
10	D1	3.78	3.58	3.97	+0.39	111
20	D2	5.33	5.24	5.42	+0.18	111*
10	C1	4.02	4.65	3.40	-1.25	211
20	C2	4.00	4.84	3.15	-1.69	211*
Mean		4.28	4.58	3.98	-0.60	112 112* 212 212*
			<u>2nd Harvest</u>			
10	D1	5.90	5.94	5.84	-0.10	111
20	D2	7.09	7.84	6.33	-1.51	111*
10	C1	6.14	6.10	6.17	+0.07	211
20	C2	6.73	7.84	5.62	-2.22	211*
Mean		6.46	6.94	5.99	-0.95	112 112* 212 212*
						Mean 3.17 5.56 5.30 3.75 3.88 3.23 5.04 3.94 3.49 Mean 4.27

*PK half ploughed in, half in seedbed.

63/B/5,6

Carrots. Graded produce. Roots: tons per acre

Dung: tons per acre	Organic manure applied 1942-61	Mean	Fertiliser		Diff.	Treatment NPK
			None	NPK		
<u>Mean of 1st and 2nd Harvest</u>						
10	D1	5.05	5.00	5.09	+0.09	111
20	D2	6.39	6.80	5.97	-0.83	111*
10	C1	5.29	5.52	5.06	-0.46	211
20	C2	5.64	6.64	4.63	-2.01	211*
Mean		5.59	6.00	5.19	-0.81	112 112* 212 212*
						Mean 3.83

* PK half ploughed in, half in seedbed

63/B/5.7

Carrots. Tops: tons per acre

Dung: tons per acre	Organic manure applied 1942-61	Mean	Fertiliser		Diff.	Treatment NPK
			None	NPK		
			<u>1st Harvest</u>			
10	D1	4.22	3.68	4.75	+1.07	111
20	D2	6.76	7.52	6.01	-1.51	111*
10	C1	4.60	5.14	4.07	-1.07	211
20	C2	5.84	6.69	4.99	-1.70	211*
						112
						112*
						212
						212*
Mean		5.36	5.76	4.95	-0.81	Mean
			<u>2nd Harvest</u>			
10	D1	4.91	4.16	5.66	+1.50	111
20	D2	7.45	7.56	7.34	-0.22	111*
10	C1	5.22	5.20	5.24	+0.04	211
20	C2	6.77	7.50	6.04	-1.46	211*
						112
						112*
						212
						212*
Mean		6.09	6.10	6.07	-0.03	Mean
						3.11
						3.62
						3.62
						3.04
						2.97
						2.13
						3.42
						3.81
						2.84
						3.18

* PK half ploughed in, half in seedbed.

63/B/5.8

Carrots. Tops: tons per acre

Dung: tons per acre	Organic manure applied 1942-61	Fertiliser		Diff.	Treatment NPK
		None	N1P1K1		
Mean		Mean of 1st and 2nd Harvest			
10	D1	3.97	5.30	+1.33	111
20	D2	7.54	6.81	-0.73	111*
10	C1	5.18	4.77	-0.41	211
20	C2	7.18	5.62	-1.56	211*
					112
					112*
					212
					212*
Mean		5.80	5.62	-0.34	
					Mean
					3.16

* PK half ploughed in, half in seedbed.

63/B/5.9

Globe beet. Total produce: tons per acre

Dung: tons per acre	Organic manure applied 1942-62**	Mean	Fungicide		Diff.	Fertiliser		Diff.
			0	F		None	NPKI	
10	D1	12.94	12.21	13.66	+1.45	10.88	14.99	+4.11
20	D2	15.51	14.16	16.86	+2.70	14.47	16.55	+2.08
10	C1	13.41	13.45	13.37	-0.08	9.87	16.96	+7.09
20	C2	15.53	14.65	16.41	+1.76	15.36	15.70	+0.34
Mean		14.35	13.62	15.08	+1.46	12.65	16.05	+3.40

Fungicide

0
F

12.27
13.02
14.97
17.13

NPK

111	6.40	5.23	7.56	+2.33
111*	11.28	10.53	12.02	+1.49
211	8.86	9.63	8.08	-1.55
211*	7.30	6.98	7.62	+0.64
112	12.44	12.92	11.95	-0.97
112*	***	***	***	***
212	7.36	5.62	9.11	+3.49
212*	14.76	14.47	15.05	+0.58
Mean excluding 112*	9.77	9.34	10.20	+0.86

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

*** Results omitted because of discrepancy between plant counts immediately after singling and at harvest.

63/B/5.10

Globe beet. Total saleable roots: tons per acre

Dung: tons per acre	Organic manure applied 1942-62**	Mean	Fungicide		Diff.	Fertiliser		Diff.
			O	F		None	NPK	
10	D1	5.90	5.86	5.95	+0.09	5.06	6.75	+1.69
20	D2	7.76	7.34	8.20	+0.86	7.57	7.96	+0.39
10	C1	6.31	6.34	6.28	-0.06	4.41	8.20	+3.79
20	C2	7.53	7.29	7.76	+0.47	7.70	7.35	-0.35
Mean		6.88	6.70	7.05	+0.35	6.19	7.56	+1.37
			Fungicide					
			O	F		6.22	7.19	
						6.16	7.94	
NPK								
111		1.93	1.51	2.35	+0.84			
111*		4.55	4.26	4.84	+0.58			
211		3.79	4.42	3.16	-1.26			
211*		2.16	1.91	2.41	+0.50			
112		5.32	5.57	5.08	-0.49			
112*		***	***	***	***			
212		2.64	2.01	3.28	+1.27			
212*		6.10	6.10	6.10	0.00			
Mean excluding 112*		3.79	3.68	3.89	+0.2			

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

*** Results omitted because of discrepancy between plant counts immediately after singling and at harvest.

63/B/5.11

Globe beet. Plant number: thousands per acre

Dmg: tons per acre	Organic manure applied 1942-62**	Mean	Fungicide		Diff.	Fertiliser		Diff.
			O	F		None	NLPKl	
10	D1	126.9	109.2	144.6	+35.4	133.3	120.6	-12.7
20	D2	126.5	113.2	139.9	+26.7	131.1	122.0	-9.1
10	C1	131.8	126.9	136.8	+9.9	130.7	133.0	+2.3
20	C2	123.8	111.7	135.9	+24.2	128.2	119.4	-8.8
Mean		127.3	115.3	139.3	+24.0	130.8	123.7	-7.1
Fungicide								
O								
NPK						119.9	110.6	
111		104.0	80.5	127.4	+46.9			
111*		145.0	127.4	162.7	+35.3			
211		106.5	99.0	114.0	+15.0			
211*		120.4	123.9	116.9	-7.0			
112		129.1	134.3	123.9	-10.4			
112*		***	***	***	***			
212		87.2	71.8	102.5	+30.7			
212*		135.2	127.9	142.4	+14.5			
Mean excluding 112*		118.2	109.3	127.1	+17.8			

* NPK half ploughed in, half in seedbed.

** Last applied to early potatoes 1962.

*** Results omitted because of discrepancy between plant counts immediately after singling and at harvest.